JAN 26 1912

INDEX TO ADVERTISEMENTS 57

Rock Products

DEVOTED TO

Concrete and Manufactured Building Materials

Volume XI. CHICAGO, ILL., JANUARY 22, 1912. Number 7.

CAROLINA PORTLAND CEMENT COMPANY

We are the largest distributers of Portland Cement, Lime Plaster, Fire-brick and General Building Material in the Southern States, and have stocks of Standard Brands at all of the Atlantic and Gulf Seaports, and at our interior mills and warehouses, for prompt and economical distribution to all Southern territory. Write for our delivered prices anywhere.
Also Southern agents for the "Dehydratine's" waterproofing material. "Universal," "Acme" and "Electroid" Brands Ready Roofing. Get our prices.

Charleston, S. C. Birmingham, Ala. Atlanta, Ga. New Orleans, La

DEXTER Portland Cement THE NEW STANDARD

Sole Agents SAMUEL H. FRENCH & CO. Philadelphia

UNION MINING COMPANY

Manufacturers of the Celebrated

MOUNT SAVAGE FIRE BRICK

GOVERNMENT STANDARD.

DEVOTE a special department to the manufacture of Brick particularly adapted both physically and chemically to

Lime Kiln and Cement Kiln Construction

Large stock carried. Prompt shipments made. Write for quotations on Standard and Special shapes, to

UNION MINING CO.,
Mount Savage, Md.

CAPACITY, 60,000 PER DAY. ESTABLISHED 1841.

Special Features in This Number

	Page.
World's Largest Hydrator	3
History Makers	20
Cement Trade World Over	30
Lime Tests	31
National Lime Meeting	32
Modern Cement Mill	34
New York Cement Show	45
Iowa Cement Show	46
Model Stag Hotel	47
Concrete Warehouse	48
Concrete Cisterns	49
New Concrete Code	51
Cement in Architecture	51

FOR GRIFFIN TUBE AND BALL MILLS

CHICAGO BELTING CO.

PURE OAK TANNED LEATHER BELTING

Send for Our Illustrated Catalog 111 North Green St., CHICAGO

FOR DAMP PLACES

Branches: NEW YORK PHILADELPHIA NEW ORLEANS PORTLAND, OREGON

THE DAILY ROCK PRODUCTS

Will be issued every day during the Cement Show.

Call at Booth 131

HARBISON-WALKER
LIME AND CEMENT KILN LININGS

YOU *know* what the linings for your cement and lime kilns cost per thousand brick but *do* you know how much per *ton* output? *That* is the cost that is vital, that's why we are anxious you *should* know. Write us.

Harbison-Walker Refractories Co.
PITTSBURGH :: :: PENNSYLVANIA

YOU ARE WELCOME

CALL AT BOOTH 131

NEW YORK CEMENT SHOW
JAN. 29 — FEB. 3

Phoenix Portland Cement UNEXCELLED FOR ALL USES.
Manufactured by
PHOENIX PORTLAND CEMENT CO.
NAZARETH, PA.
Sole Selling Agent, WILLIAM G. HARTRANFT CEMENT CO
Real Estate Trust Building, PHILADELPHIA, PENNSYLVANIA

Ottawa Silica Co.'s Washed White Flint Sand

Is used for sawing stone in more than a dozen states. Cuts more and lasts longer than any other sand on the market. Unexcelled for Roofing, Facing Cement Blocks, White Plaster, etc. Freight rates and prices on application.

OTTAWA SILICA CO., Ottawa, Ill.

The Ironton Portland Cement Co.

Manufacturers of the

Celebrated Limestone Brand of Portland Cement

Used by the Railroads in Kentucky, Ohio, West Virginia, and Virginia during the past five years.

Cement as finely ground as any on the market.

Guaranteed to pass all the standard specifications.

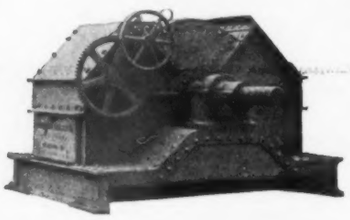
Plant located at Ironton, O., within easy access to seven States, namely, Ohio, Indiana, Kentucky, West Virginia, Virginia, Tennessee and North Carolina.

Shipments via the N. & W. Ry., C. & O. Ry., C. H. & D. Ry., D. T. & I. Ry., or Ohio River. **Write for Prices**

The Ironton Portland Cement Co.

Ironton, Ohio

"PENNSYLVANIA" HAMMER CRUSHERS



For Pulverizing Limestone, Lime, Cement Rock, Marl, Shale, Etc.

Main Frame of steel, "Ball and Socket" Self aligning Bearings; forged Steel Shaft; Steel Wear Liners; Cage adjustable by hand wheel while Crusher is running.

No other hammer Crusher has such a big Safety Factor.

PENNSYLVANIA CRUSHER CO.

Philadelphia

New York Pittsburgh

CANADA CEMENT COMPANY LIMITED — PORTLAND CANADA CEMENT — MONTREAL

MILLS

Montreal	Port Colborne
Hull	Shallow Lake
Belleville	Marlbank
Lakefield	Winnipeg
Calgary	Exshaw

For Prices Any Where in CANADA

Write or Wire Our Nearest Sales Office

Canada Cement Company LIMITED

Montreal = Toronto

Winnipeg = Calgary

WISHING ALL OUR GOOD FRIENDS

A HAPPY AND PROSPEROUS NEW YEAR — LEE-HI

LEHIGH PORTLAND CEMENT CO.

CHICAGO, ILL. ALLENTOWN, PA.

ALPHA PORTLAND CEMENT COMPANY — ALPHA PORTLAND CEMENT — GENERAL OFFICE EASTON PENNA — MANUFACTURERS

ONE GRADE—ONE BRAND

Alpha Portland Cement

Best in the World for Sidewalks

Write for our Handsomely Illustrated Book. Sent Free.

General Offices: No. 7 Center Square, EASTON, PA.

——SALES OFFICES:——

The Oliver Bldg., PITTSBURGH.
Builders Exchange, BALTIMORE.
Marquette Building, CHICAGO.
Harrison Building, PHILADELPHIA.
Builders Exchange, BUFFALO.
Board of Trade Bldg., BOSTON.
Hudson Terminal Bldg., N. Y.
Nat'l Bank Bldg., SAVANNAH, GA.

NORTHWESTERN STATES PORTLAND — PORTLAND — NORTHWESTERN — CEMENT — MASON CITY, IA. — Cookham System

"THE BEST IS NONE TOO GOOD"

HIGHEST GRADE of Portland Cement

Every Barrel Absolutely Uniform.

R. R. facilities especially adapted for prompt shipments in the northwest.

Capacity 1,500,000 bbls. Yearly.

NORTHWESTERN STATES PORTLAND CEMENT COMPANY

MASON CITY, IOWA

WOLVERINE PORTLAND CEMENT CO. — WOLVERINE — PORTLAND CEMENT — GENERAL OFFICES, COLDWATER, MICH. U.S.A.

"WOLVERINE"

The Alright Cement

MADE RIGHT SOLD RIGHT
WORKS RIGHT
WEARS RIGHT

The Best is None Too Good For You. Insist Upon

"WOLVERINE"

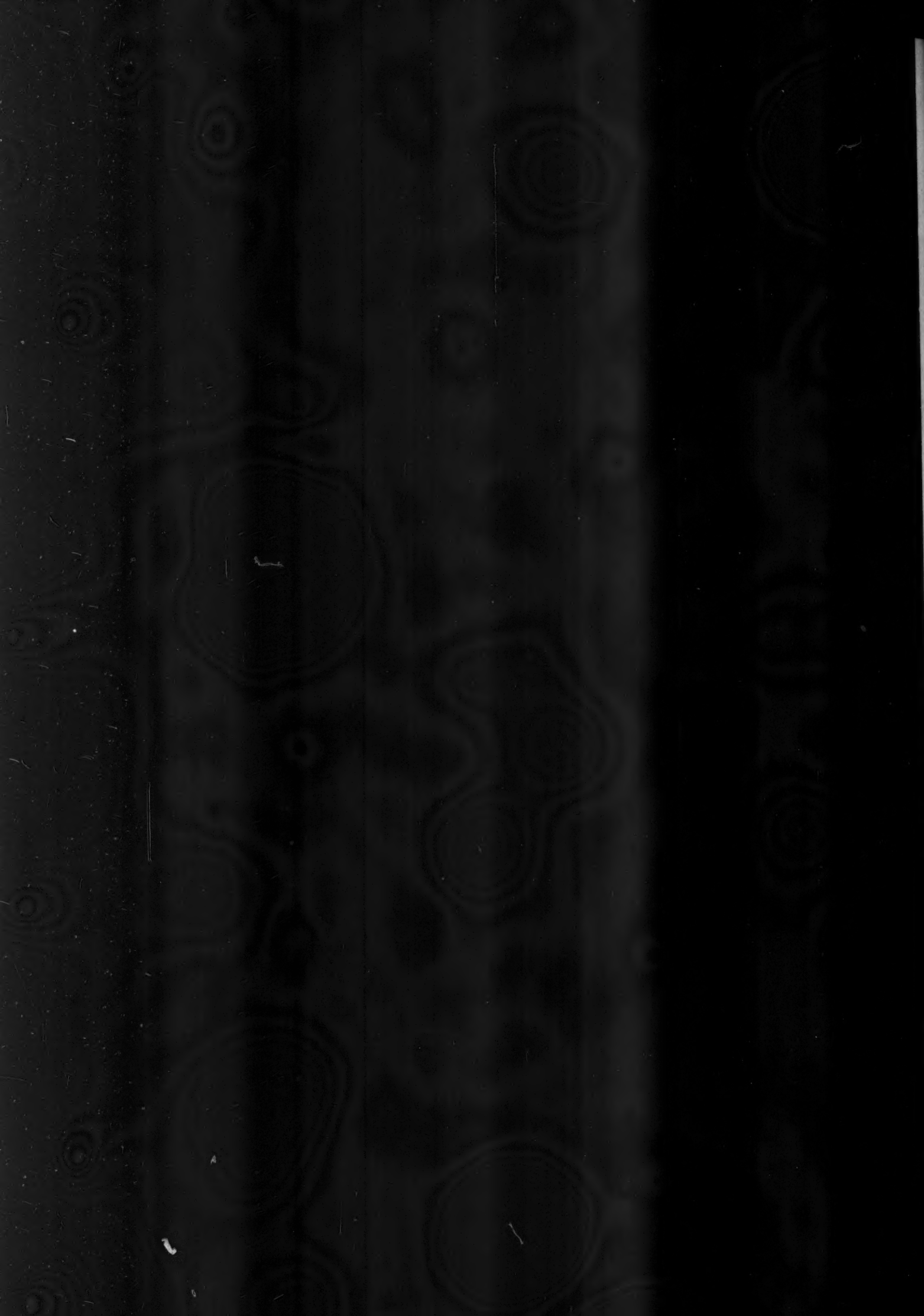
Write for Booklet and Quotations.

Factories at Coldwater and Quincy, Mich. Capacity 3500 Daily.

WOLVERINE PORTLAND CEMENT COMPANY

W. E. COBEAN, Sales Agent, Coldwater, Michigan

Main Office, Coldwater, Mich.



Rock Products

DEVOTED TO

Concrete and Manufactured Building Materials

Volume XI | CHICAGO, ILL., JANUARY 22, 1912 | Number 7

WORLD'S LARGEST HYDRATING PLANT

Kritzer Company Installs a Mammoth System for the Knickerbocker Company of Philadelphia to Enable It to Meet the Increasing Demand for Its Products.

In the lime manufacturing world the trend is constantly upward towards better equipment and more labor-saving devices. In the hydrating department this is especially noticeable. Lime manufacturers realize that in order to keep up with the procession they must get the best machinery and the best of everything. The illustrations in this connection are of the largest and most modern hydrating plant in the world. It was built by the Kritzer Company of Chicago for the Knickerbocker Lime Company of Philadelphia at its Mill Lane, Pa., plant. William B. Irvine, the president, is a firm believer in the fact that the best construction is none too good, and this plant is the last, the acme, the climax in hydrating plants.

The Kritzer Company built a plant for this company three years ago. That plant was sufficient for the demands at the time, but hydrated lime has been coming into its own since that one was built, and it could not keep up with the demand. This plant has three times the capacity of the old one. The system, of course, is essentially the same, having the Kritzer name on it.

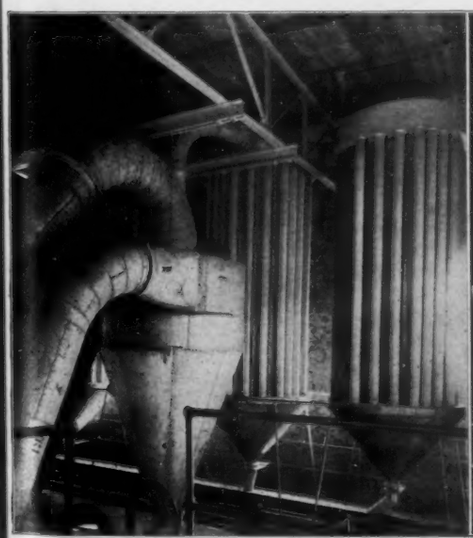
The building is of steel and stone construction, and as the machinery is all steel and there being no wood in the plant, it is absolutely fireproof.

The Knickerbocker Lime Company, under the able management of Mr. Irvine, has grown to be one of the largest manufacturers and distributors of building material in the East. Its plants are equipped throughout with the most efficient labor-saving devices known.

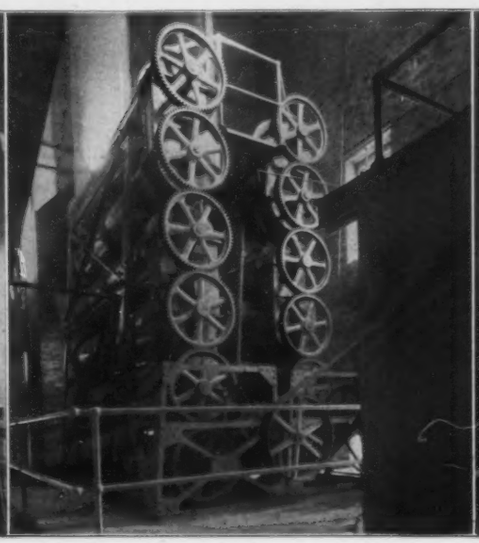
GENERAL VIEW OF KNICKERBOCKER LIME COMPANY'S PLANT.

The equipment of this plant is along the line of general advance in which the Kritzer Company is leading. Dealers everywhere are demanding more hydrated lime, resulting from the education of contractors, who insist now on being supplied with this material. The demand increases constantly, and dealers are the first to realize the fact. This accounts for the fact that the Knickerbocker Lime Company found the plant installed three years ago too small. It is not unlikely that even this latest, the largest in the world, may prove inadequate in the near future, and still another may be necessary to meet the increased demand.

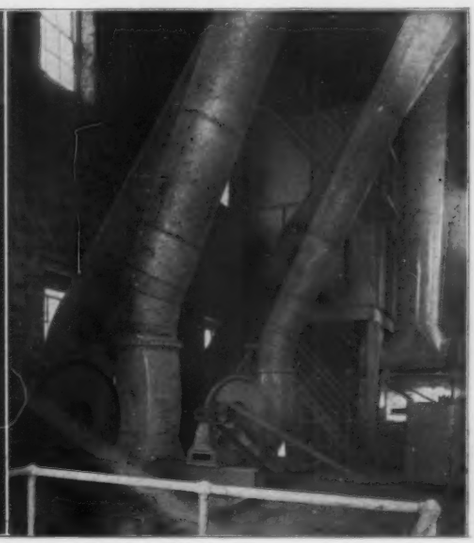
(Continued on page 33.)



CYCLONE AND TUBULAR DUST COLLECTORS.



TWO KRITZER CONTINUOUS HYDRATORS.



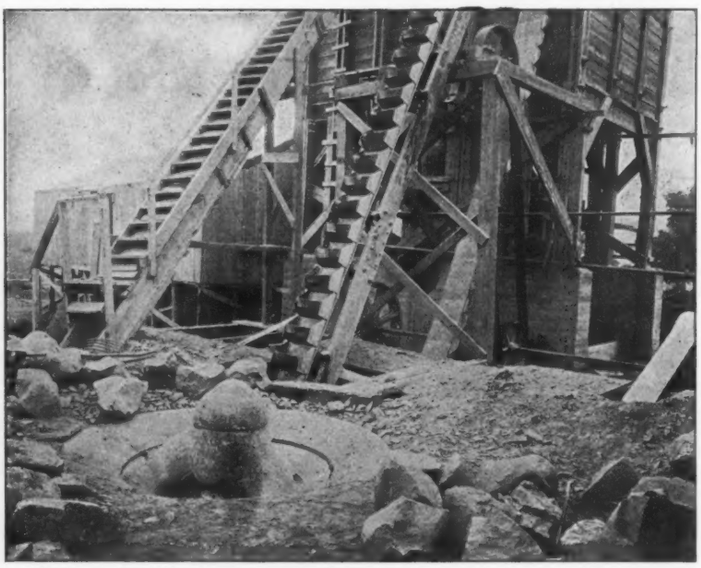
POWERFUL FAN EQUIPMENT.

NOT AN ARGUMENT—A PROOF

On the Panama Canal . . . 80 per cent.
On the Catskill Aqueduct . . . 75 per cent.
On the New York State Barge Canal, 50 per cent.

of all the ROCK CRUSHING is being done with

McCULLY GYRATORY CRUSHERS



McCully Gyratory Crushers at Work on the Catskill Aqueduct Near Newburg, N. Y.

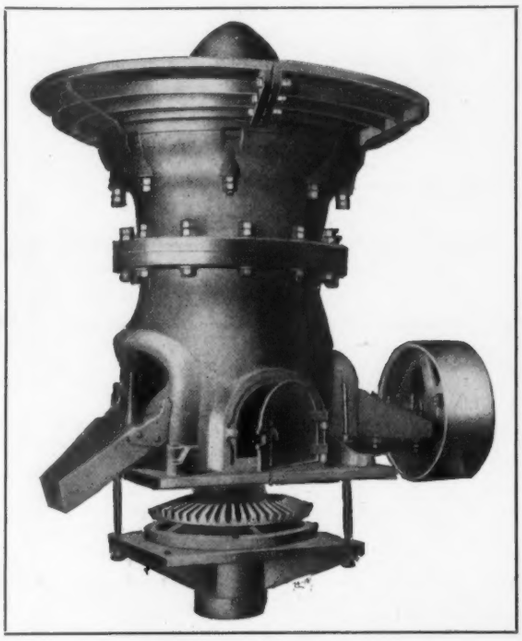
Of course these are exceptionally large jobs.

That is just why we mention them. There are a great many different contractors involved and it is evident how many of them agree as to which is THE crusher. Moreover it is for such large jobs that the greatest care is taken to select the BEST crusher. Only the best is good enough.

On small jobs this is not so important. But—we could go on and give a long list of smaller jobs where our crushers are the ONLY ones used.

Could Anything Be More Convincing of Their Merits?

Over 50 McCully Crushers Are Being Used at These Three Places Alone.



McCully Gyratory Crusher—Standard Discharge
(Showing Bottom Dropped.)

If you want to know WHY the McCully Crusher is preferred to all others, send for our bulletin PM-458.

Power & Mining Machinery Company

Cudahy, (Suburb of Milwaukee) **Wis., U. S. A.**

District Offices: New York, Chicago, Birmingham, El Paso, San Francisco

WESTERN SALES OFFICES: United Iron Works, Spokane, Wash.; Moran Engineering Company, Seattle, Wash.

PRINCIPAL PRODUCTS

Rock Crushing Machinery — **Mining and Smelting Machinery** — **Cement Making Machinery**
Wood Impregnating Plants — **Power Transmitting Machinery** — **Loomis-Pettibone Gas Generators**
Suction Gas Producers — **Cyanide and General Steel Tank Work**

PM136-8

"Forgot to Oil It—"

The oft-repeated story of the man whose plant is out of order. Don't rely on memory, and you'll avoid expensive shut-downs. In the Symons Breaker, lubrication is automatic. The oil pump's memory never fails. Read the rest.

There Is Only One Crusher with an *Automatic* Oiling System

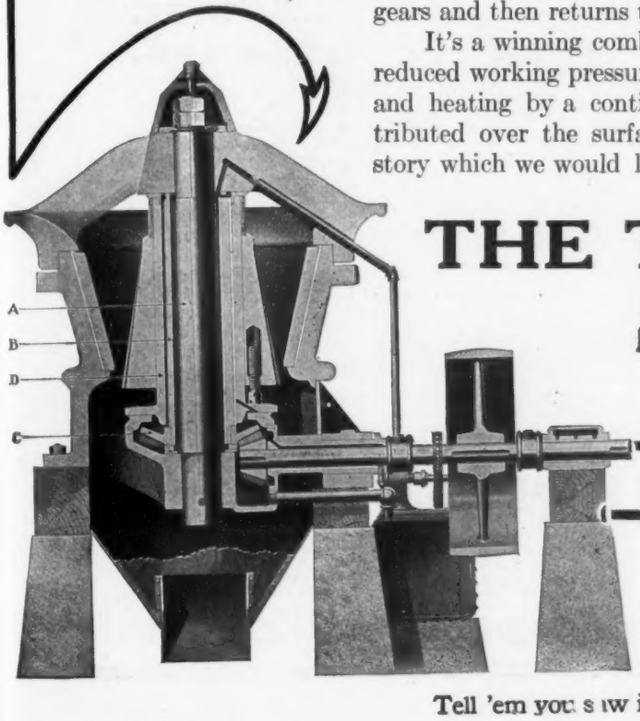
The Crusher's Life Blood is Oil.

Rock breakers work under most trying conditions, continually enveloped in a cloud of dust. It is very difficult, even with the "tightest fit," to exclude dirt from the running parts. The bearings are subject to immense pressures, very irregularly applied. When you add to these unfavorable conditions the further danger of careless supervision, any mechanic will admit the vital importance, to the practical quarryman, of the automatic oiling system peculiar to the

SYMONS CRUSHER

The oil pressure excludes the dirt. Where oil cannot get out, dirt cannot get in. The steady flow of oil (volume variable to suit conditions) washes the bearings clean, smooth and cool, immerses the gears and then returns to the tank to be used again.

It's a winning combination—only two big bearings, carrying a greatly reduced working pressure, guarded from dirt and protected from wearing and heating by a continuous oil-flow, with the working load evenly distributed over the surface of the long eccentric. But that's not half the story which we would like to tell you. Write for our catalogue No. 166.

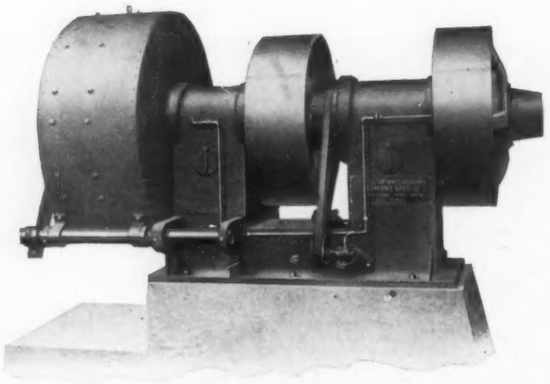


THE T. L. SMITH CO.

1322 MAJESTIC BLDG.
MILWAUKEE, WIS.

OLD COLONY BLDG., CHICAGO, ILL.
SCHOFIELD BLDG., CLEVELAND, O.

To Double the Output of Your Crushing Plant and Improve Your Market:



Built in Five Sizes

1. Open your gyratory crushers to make product twice as large as you are now making. This doubles capacity.
2. Return the over-size to **Symons Disc Crushers** reducing the product to any sizes desired by your customers. This improves the demand.

The hardest work for the gyratory crusher is to make small sizes. That's the specialty of the **Disc Crusher.** They work well together.

The **Disc Crusher** is adjustable. It is **Durable.**

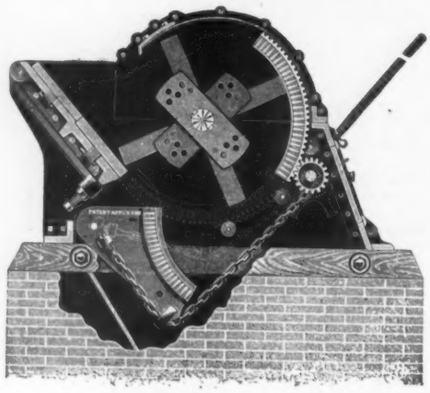
ADDRESS

Symons Brothers, Majestic Building **Milwaukee, Wis.**

WILLIAMS JUMBO CRUSHER

Will take 6 in. Limestone or Shale and reduce to 2 inch,—1½ inch,—1 inch,—¾ inch and finer. 1 No. 6 Recently Replaced 3 No. 5 Gyratories.

"MANUFACTURED AND LICENSED UNDER 87 SEPARATE AND DISTINCT PATENTS."



WITH DUMP CAGE OPEN.

Iola, Kansas, December 6th, 1910

Williams Patent Crusher & Pulverizer Co., St. Louis, Mo.

Gentlemen: Your No. 6 Jumbo Crusher recently installed by us is handling about 100 tons per hour of crushed limestone from a No. 8 Gyratory Crusher, the largest pieces of which will average six inch cubes.

The capacity of our elevator is 115 tons per hour and the machine easily overloads the elevator. We are now installing an elevator of double the CAPACITY FOR THIS CRUSHER. Your guarantee was fifty tons per hour from this machine.

Your crusher reduces all of our material to three-quarter inches and finer, and the majority to one-quarter inch.

We have been operating the machine about eight weeks and find same most satisfactory.

Yours very truly, THE IOLA PORTLAND CEMENT CO., F. L. WOODS, Supt.

MADE IN 8 SIZES—ALL PARTS ADJUSTABLE

Ask Iola Portland Cement Co., Texas Portland Cement Co., Southwestern Portland Cement Company,—or us. Write for Bulletin 12.

WE ALSO MAKE LIMESTONE GRINDERS

THE WILLIAMS PATENT CRUSHER & PULVERIZER COMPANY

OLD COLONY BL'DG.———CHICAGO

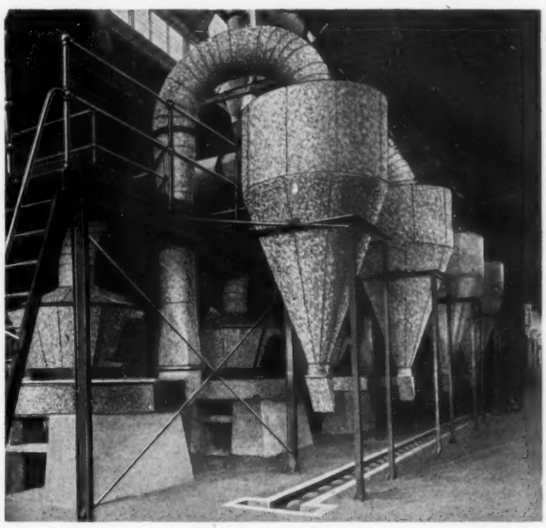
WORKS: 2701 N. Broadway, ST. LOUIS

SAN FRANCISCO, 428 Monadnock Bl'dg.

EDWARD M. HAGAR

CHICAGO, ILL.

Most Remarkable Record Ever Made in Grinding Coal in a Cement Plant



Some time ago a large cement manufacturer installed two Raymond Five Roller Mills for grinding coal, having discarded six mills of another make which were inefficient and costly to operate.

Before the installation of the Raymond Mills, it required six of the other mills to do the work. These were operated by three men for each of two 12 hour shifts per day. 160 H. P. was required for each shift. The fineness of the coal ground was only 85% through 100 mesh and the grinding room was so filled with dust that it was impossible to keep the men at work in the choking, health destroying atmosphere.

After the Raymond Pulverizers with Air Separators were installed, two mills working two men produced as much in one shift of 12 hours as the six discarded mills did in 24 with the six men; only one-half the horse-power being used and the fineness of the coal was 96% through 100 mesh.

The owner would have saved the initial cost of 4 mills, had this plant been equipped originally with the

RAYMOND PULVERIZING AIR SEPARATING SYSTEM

but he actually did save by the change—12% in coal due to the greater degree of fineness, one-half the cost of operation—one-half the wear and tear on equipment—one-half the horse-power—66⅔% in labor expense, and last but not least stopped the coal dust from escaping into the grinding room, and thereby made it a fit place for human beings to work.

Perhaps we can duplicate this record for you, if you let us investigate the conditions in your plant. If we cannot improve your conditions, we will not advise a change.

Another cement manufacturer figures that he is saving 65% in grinding his coal, and he knows also that his plant is not sending his workmen to early graves, for no dust escapes from Raymond Mills to choke or poison the men who work near them.

These records are only a few of many we have, which prove that there is no system, mill or device of any kind for grinding coal that comes anywhere near the efficiency of the Raymond Pulverizing Air Separating System.

The features of the Raymond System, which are exclusive with it, are the greater degree of fineness of the ground material and the automatic method of instantly separating the pulverized product from the mill and the conveying of it to the point desired. All this is done while the mill is in operation.

Our proficient engineers know a lot about the application of our system to special requirements. They have pointed out to many firms ways of annually saving immense sums of money. Your grinding problems may not be solved until you learn whether or not our system is applicable to your needs.

A letter to us to-day may mean to you, a reduced cost of production, a betterment in grade of your product, a more workable material, a greater facility of handling it or some other equally important change which you will gladly welcome.

Send for our book "I," which explains in detail what our system is and where it may be used.

Raymond Bros. Impact Pulverizer Co.
517 Laflin Street **Chicago, Ill.**

PLEASE CUT THIS OUT

REMINDER

To write Raymond Brothers Impact Pulverizer Company, 517 Laflin St., Chicago, for their Book "I" on Modern Methods of Pulverization and Air Separation. (1)

Knickerbocker Portland Cement

Semi-Wet Process

Lightest (gray) Color of all Portland Cements, Manufactured in a Model Plant by Modern Methods, Shipped by Rail or Water—Quick Deliveries

HIGHEST **QUALITY**

Users of "Knickerbocker" Say it is Uniform, Finely Ground, and Works Most Satisfactorily

Join the "Knickerbocker Family"

Permit Us To Ship You Now

Knickerbocker Portland Cement Company

WORKS: Hudson, N. Y.

GENERAL SALES OFFICE: One Madison Avenue New York City

Tell 'em you saw it in ROCK PRODUCTS

Cutting the Cost of Grinding

WITH THE

PULVERATOR

HOW IT DOES IT

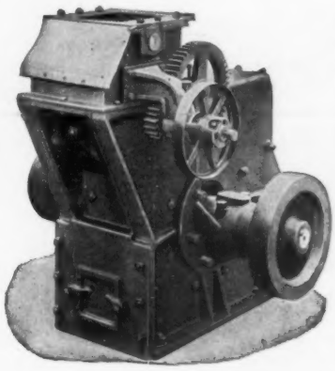
Less than half as much power is required to operate it as is necessary with the older types of preliminary grinders of the same capacity.

It will take larger material and produce a finer product than old style machines, thus greatly reducing the cost of grinding.

Will handle moist as well as dry material.

Occupies much smaller floor space, which means decreased building cost.

So evenly balanced that extremely light and cheap foundations can be used.



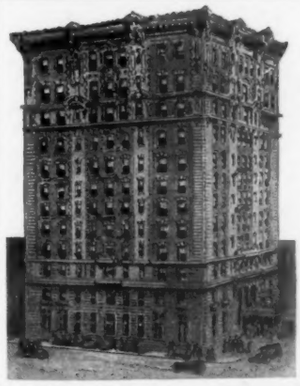
Send us a sample and we will give you screen tests of results.

We can equip your plant from the power house to the finishing mill.

We have in stock for immediate shipment an 8 ft.x135 ft. **Rotary Kiln,** which we offer at a very attractive price.

Allis-Chalmers Company

Milwaukee - Wisconsin



Twelve Stories of Solid Comfort in
The Heart of New York

Hotel York

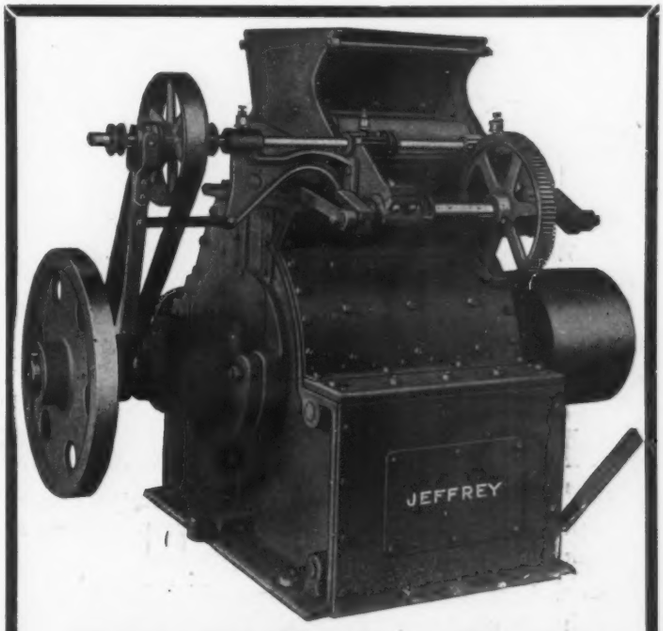
Strictly Fireproof

36th Street Corner 7th Avenue

2 minutes walk from New Penn. R. R. Station and 10 minutes from Grand Central Terminal, one short block to Broadway.

Accommodations better than rates indicate—Desirable Rooms $1.50 and $2.00 bath privilege—Desirable Rooms $2.00 to $4.00 with private bath.

Write for Pocket Map of New York City.



JEFFREY

Swing Hammer Pulverizer

Reduces Limestone for

CEMENT PLANTS

For Breakdown

Raw Limestone 10 to 200 tons per hour.
½ inch and under.

FOR CONCRETE WORK

Reduces the stone to a blended product for CONTRACTOR.

Capacities from 1 to 25 tons per hour.
Made in several sizes.

Reduces Limestone for

SPREADING ON THE SOIL

You are cordially invited to visit the

Jeffrey Exhibit, Chicago Cement Show

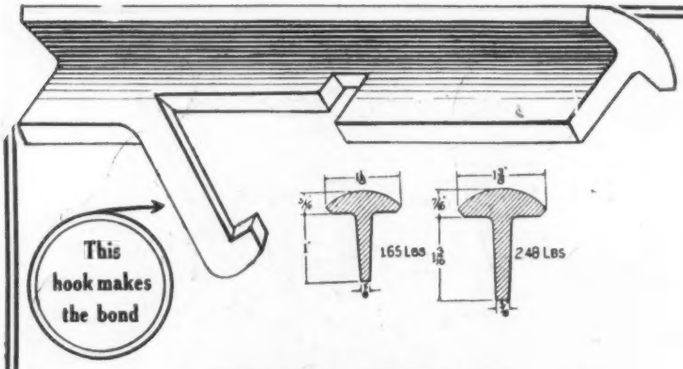
Pulverizers, Elevating, Conveying, Power Transmission Machinery

Send for Catalogs now and familiarize yourself with this line.

JEFFREY M'F'G. COMPANY

COLUMBUS, OHIO

New York	Pittsburgh	Birmingham	Denver
Boston	Charleston, W. Va.	Chicago	Seattle
Montreal	Atlanta, Ga	St. Louis	*1-16-12*



THE EBCO HOOK CURB BAR

is a steel member to be embedded when the concrete is poured, forming a permanent protecting edge and acting as a re-inforcing member as well.

These bars have shear members which bond perfectly with the concrete. Rolled in straight lengths and in curves for street corners.

Write for circulars.

Edward E. Buhler Company

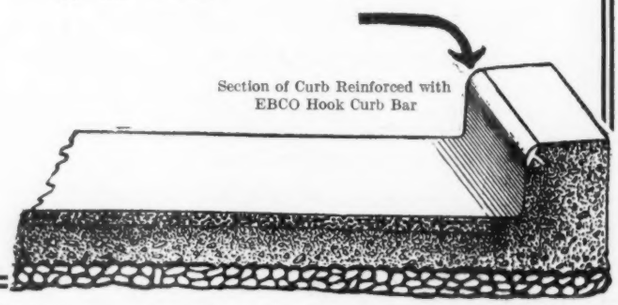
MANUFACTURERS

Sales Office: 103 Park Avenue - - - - - New York City
Factory: Pittsburgh, Pa.

Western Agents: Waterhouse Price Co., San Francisco, Cal.
Louisiana Agents: Standard Paving & Construction Co., 321 Godchaux Bldg., New Orleans, La.

Protect and Reinforce the Corners of Your Concrete Curbing

City engineers and contractors who have had trouble with the old sandstone curbs or with plain concrete curbing, realize the need of a curb whose corner is properly protected against wear.

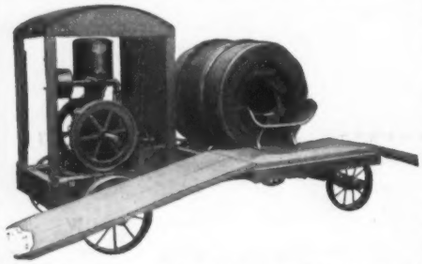


Section of Curb Reinforced with EBCO Hook Curb Bar

Have You Fully Considered the Economy of the Low Charging Feature of

THE ECLIPSE
LOW CHARGING
CONCRETE MIXER

Wheeling material direct from supply piles to mixer means no time lost in waiting for the loading of a charging elevator, no extra man to operate a loading device, no special framework to sustain it, no hoisting mechanism, and no additional power to operate it.



It produces a mixer, having as large capacity as other mixers of double the weight, that is so compact and portable that it can be readily moved to any location on the job so that most concrete can be produced with least manual labor.

Since there is only about half the mechanism and half the power required you do not have to pay for additional equipment that adds nohting in mixing capacity.

We have proved this greater economy to many of the biggest builders and contractors and we are ready to prove it to you.

Catalog No. 33 Tells About It. Better Write for It Today

The Standard Scale & Supply Co.

1345-1347 Wabash Ave., CHICAGO

NEW YORK 136 W. Broadway
PHILADELPHIA 35 South Fourth Street
PITTSBURGH 243-245 Water St.

Do you know the added business and profit a paint department will bring you?

No one can handle a paint department more successfully and profitably than the building supply dealer. The amount of paint and varnish required for one job may be between $25.00 and $500.00 or more. And paint pays a good profit. Secure the exclusive Agency in your locality for

SHERWIN-WILLIAMS
PAINTS AND VARNISHES

the highest quality, best known, and most widely advertised finishes in the world. Let us explain the complete S-W Agency Proposition and show you the strength of our advertising and selling helps to increase your business. Write at once for particulars. The S-W Agency is going to be the most sought after among building supply dealers. Better close for your territory while you can.

Address Correspondence,
708 *Canal Road, Cleveland, O.*

THE SHERWIN-WILLIAMS CO.

PAINT AND VARNISH MAKERS

FACTORIES: CLEVELAND, CHICAGO, NEWARK, MONTREAL, LONDON, ENG.
SALES OFFICES AND WAREHOUSES IN PRINCIPAL CITIES

Trade Mark
Reg. U. S. Pat. Off.

A Happy New Year to Everybody

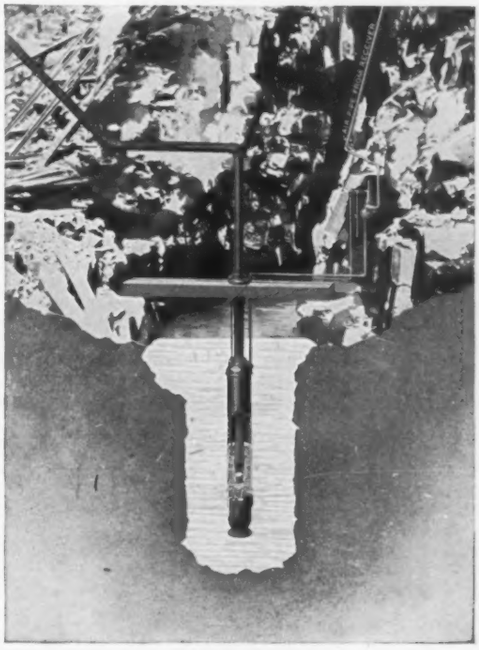
I am the Bay State Coating Man

My **Bay State Brick and Cement Coating** is backed by twelve years of practical experience in making a cement coating. It has been tried under all sorts of conditions and met all requirements.

Years before anyone else had put a coating on the market Bay State Brick and Cement Coating was an established success. It had been used on large and small houses, factory walls and factory floors, on the vats and damp rooms of textile mills and breweries. It is the only coating that I know of that won't burn when subjected to heat. It has a flat finish, doesn't destroy the texture of concrete and saves it from cracking from moisture.

Just write me for our Booklet No. 0. Give our salesman a good hearing when he calls. He's got the goods.

WADSWORTH, HOWLAND & CO., Inc.
Paint and Varnish Makers and Lead Corroders,
82-84 Washington St.,
Boston, Mass.



FLOATLESS SUMP PUMP
FOR
Mine and Quarry Drainage
Operated by Compressed Air

No machined Pistons or Cylinders to wear out. Made of Standard Pipe or brass; galvanized or coated with acid-resisting paint.

Connect with existing pipe lines and "turn on the air."

Requires no oiling or attention

No pressure Regulating Valve required.

Can be equipped with Automatic Starting and Stopping Device.

Single Unit shown in illustration.

Two or more Units can be placed in same Sump *or in series* for *compounding* the lift.

Detailed information upon receipt of your pumping conditions.

Weber Subterranean Pump Co.
90 West Street, New York City

TIGER BRAND
WHITE ROCK FINISH

Hydrated Finishing Lime

The Standard by which all Other Brands are Measured

A safe, dependable product. Dealers who handle it are bound to have the best plastering trade on their books. May we send you a quotation?

THE
Kelley Island Lime & Transport Co.
CLEVELAND, OHIO

MITCHELL LIME

Is Chemically Pure and Practically Free from Waste

The Strongest White Lime on the Market. Used and recommended by Sand-Lime Brick Manufacturers, Chemists, Soap and Glue Works, Plasterers and Masons.

Prices Cheerfully Submitted

Mitchell Lime Company

Office: 521 Peoples Gas Bl'dg. CHICAGO, ILL.
Works: MITCHELL, IND.

REASONS WHY!

It costs less delivered.

MONARCH HYDRATED LIME

It needs no screening.

Monarch Hydrated Lime offers you many good and sufficient reasons why you should *now*, once and for all, abandon the use of the old, obsolete lump; the lime of other days, those golden (?) days we read about when progress was at a standstill—and cling fervently to the modern way —*Monarch Hydrated Lime*.

Monarch Hydrated Lime

is better and cheaper than lump lime—you save money and get a better article.

Can be thoroughly soaked in one day in place of seven.

Carries more sand, gauges with one-third less plaster, spreads further and easier than lump lime and it will not airslack.

—And we're specialists in sudden service—you can get your order on the dot.

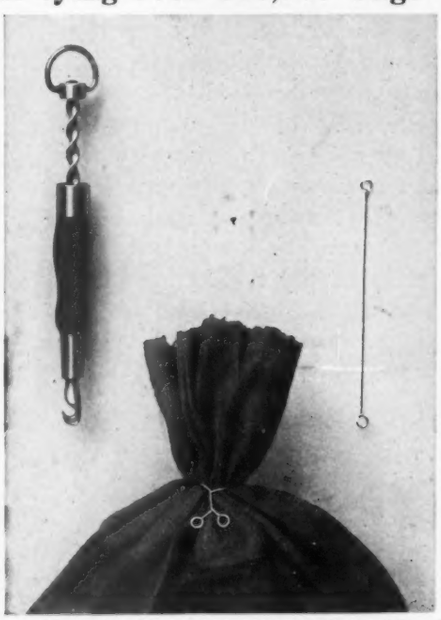
As manufacturers of MONARCH HYDRATED LIME our location is supreme, our product is superior, our prices are low, you save money and get a better article—and get it quick.

Let us put information in your hands which will prove to you conclusively that *Monarch Hydrated Lime* is the modern method, the progressive one, the profitable one for you. Write us to-day.

The National Lime & Stone Co.
CAREY, OHIO

The Curry Bag Tyer

is tying over 500,000 bags every day



The wire tie is absolutely secure, quicker in operation, more uniform and cheaper than twine.

It is opened by simply untwisting, no knife can be used—no cut bags.

Eliminates sore hands. Can be used rapidly by green men.

Adopted by all the prominent concerns in the cement, plaster, flour and other bagging trades.

REFERENCES AND CATALOGUE "E' ON REQUEST

Clifford L. Miller & Co.
110 East 23d Street New York, U. S. A.

The Ohio and Western Lime Company

WORKS AT
Huntington, Indiana
Marion, O.
Gibsonburg, Ohio
Fostoria, Ohio
Sugar Ridge, Ohio
Tiffin, Ohio
Genoa, O.
Limestone, Ohio
Lime City, Ohio
Portage, Ohio
Luckey, Ohio
Bedford, Ind.

MANUFACTURERS OF AND WHOLESALE DEALERS IN

Ohio and Indiana White Finishing Lime, Ground Lime, Lump Lime, Fertilizer, Hydrate Lime, Cement, Plaster, Hair, Etc., Etc.

MAIN OFFICE: Huntington, Ind. Branch Offices: Marion, Ohio.

Capacity 8000 Barrels Per Day

"IF IT IS **LIME** WE MAKE IT"

Lump - Barreled - Hydrated - Ground

STRONGEST IN OHIO

We are not connected with any Trust or Combination

WRITE US
PHONE US

The Scioto Lime and Stone Company, Delaware, Ohio

CROWN HYDRATE

HIGH CALCIUM HYDRATED LIME

At present prices you can waterproof, improve the color and strengthen the texture of all cement construction and actually save money, because the Hydrate replaces the same amount of cement (15 to 25%).

Kritzer Vacuum Process

MARBLEHEAD LIME COMPANY

KANSAS CITY CHICAGO

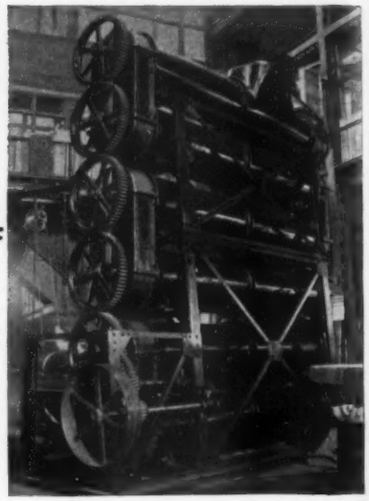
BANNER HYDRATE LIME

is manufactured under the well known and tried process of A. H. Lauman. It is a clean and economical process. Reasonable cost of Hydrate Machine, and low cost per ton manufactured. For information apply to

A. H. LAUMAN, SECOND NATIONAL BANK BUILDING... PITTSBURG, PA.

HYDRATED LIME

Bulletin No. 43



KRITZER CONTINUOUS PROCESS

The Government Lime Statistics for 1910 have just been issued. According to this report the quantity of lime manufactured in 1910 was less than that produced in 1909, while the quantity of Hydrated Lime manufactured showed an increase of more than 50%. This shows the drift of the lime business. What evidence could be more convincing?

You Will Eventually Establish a Hydrating Plant Why Not Do It Now?

We can prove to you positively that by so doing,
Your sales will be increased.
Your expense of manufacture will be no more.
Your overhead expenses will be less.
Your product will always be perfect. We guarantee this absolutely.
You will have every dealer praising your product.
Every dealer will handle More Lime.
Every concrete worker can do Better Work.
Every concrete worker can do More Work in Less Time.
He will make More Money and hence will wish to use More Lime.
He can do the Same Work with Less Men.
The work will be Impervious to Moisture.
The Concrete will Work Easier and Look Better, in fact, Be Better.

The cost of installation is not heavy. Let us give you prices.

We would be pleased to give you estimates covering **your particular case,** free of all charge.

We can convince you that it has paid handsomely to erect a Hydrating Plant, not merely in one instance, but in every instance.

The Kritzer Way Is the Right Way

98 per cent of all the ideas used in Hydrating Lime are Kritzer ideas.

An Absolutely Perfect Product, Positively Assured by this Process.

A Bond Behind Every Guarantee.

It takes several months to install a plant.

Why not take this matter up with us **Now** and get ready for business as soon as possible?

The Kritzer Company

115 Adams Street
Chicago, Illinois

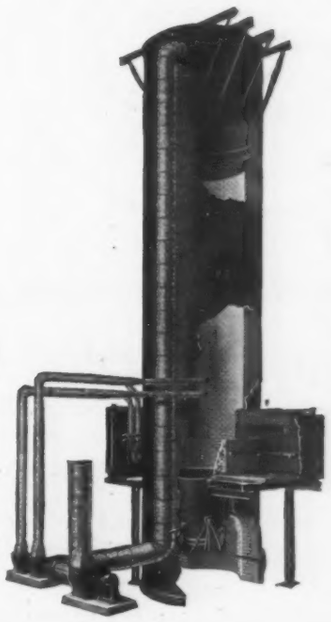
What Does It Cost You to Make Lime?

Look into the item of fuel, labor and up-keep in the operation of your lime kilns and see how a saving in any one of them would cut your production cost.

It would pay you to reduce any one of these items. **But a Doherty Lime Kiln will reduce them all—so figure for yourself whether you can longer afford an out-of-date kiln equipment.**

More than this, a Doherty Kiln will increase your output and make a better grade of Lime. So you gain a double advantage.

Write us for Bulletin No. 4, which explains the secret of making **more lime and better lime at less cost.**



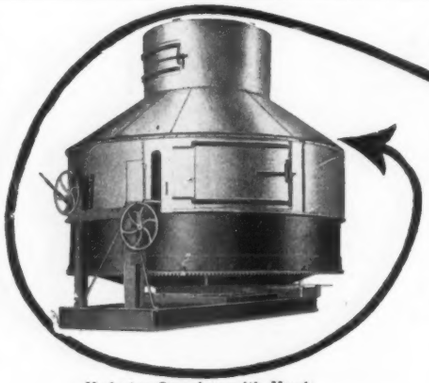
IMPROVED EQUIPMENT CO.

COMBUSTION ENGINEERS

Executive and Sales Offices, 60 Wall Street, NEW YORK

ALUMINATE PATENTS CO.

2211 Chestnut Street, PHILADELPHIA, PA.



Hydrator Complete with Hood

The CLYDE HYDRATOR

A Machine That Outgrows Its Capacity Every 2 Years.

Proven by the experience of operators covering a period of 6 years. Increased sales due to thoroughness of hydration. By hydrating one "batch" at a time, each particle of lime receives the precise amount of water and number of minutes required to thoroughly hydrate that particular "batch." Hydrate from the Clyde Process, the "common sense way," is making good in every market. Lime as hot as 99.16% CaO handled as easily as magnesium. If YOUR hydrated lime business does not grow, see if your successful competitor doesn't use the Clyde Process.

Catalog and Information on Request.

H. MISCAMPBELL
Patentee and Sole Manufacturer.

318 St. Croix Ave.
DULUTH, MINN.

Farnam "Cheshire" Lime Co.

OF CHESHIRE, MASS.
MANUFACTURERS OF THE

Celebrated Cheshire "Finishing" Lime

Well known throughout New York and the Eastern States as the finest finishing lime manufactured. The special feature of this lime is its quick and even slacking, thus preventing any cracking or checking when put on the wall. It is the best lime used in the country today for all

HIGH GRADE FINISHING WORK

Selling Department, 39 Cortlandt St., N. Y., C. J. CURTIN, Pres't.

THE FULLER ENGINEERING CO.

Designing, Constructing and Operating Engineers
ANALYTICAL CHEMISTS
Cement, Hydrated Lime and Gypsum Plants a Specialty
OFFICES: Allentown Natl. Bank Bldg. - - ALLENTOWN, PA.

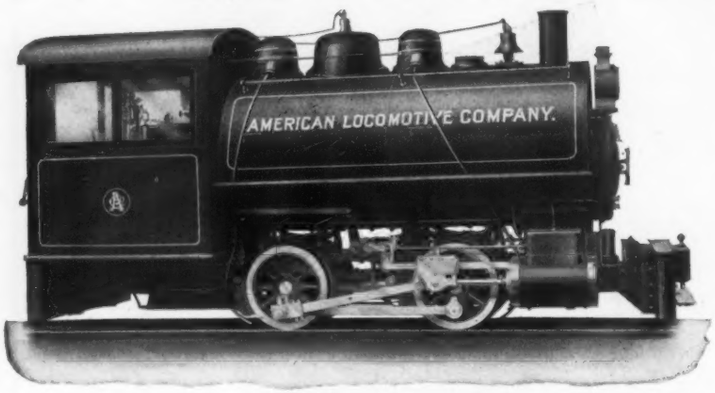
FOWLER & PAY

Brown Hydraulic Lime, Austin Hydraulic Cement, Jasper Wall Plaster, Brick, Stone

CEMENT WORKS: Austin, Minn
PLASTER MILL: Ft. Dodge, Iowa
WAREHOUSE: Minnesota Transfer

MANKATO, MINN.

INDUSTRIAL LOCOMOTIVES



This company builds good locomotives or it could not have 50,000 of them to its credit.

In buying machinery or equipment, particularly locomotives, you necessarily have several qualifications in mind.

Adaptability to the service—plenty of power to start loads and boiler capacity to keep going.

Dependability, always ready for business.

Good detail designs, every part made as it should be made.

Durability for long service. Convenience in handling.
Convenience in repairs. Correct materials for each and every part.
Assurance that parts for renewal and repairs will fit.

You cannot afford to purchase a locomotive without investigating ours with respect to these qualifications.

AMERICAN LOCOMOTIVE COMPANY

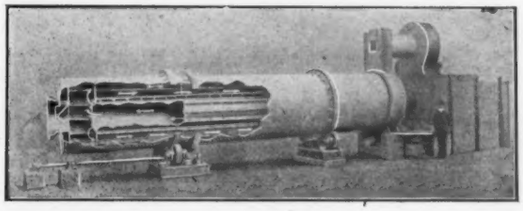
30 CHURCH STREET, NEW YORK

McCormick Building, Chicago
2101 Beaver Avenue, Pittsburg
401 Board of Trade Building, Scranton
41 Ottawa Bank Bldg., Montreal, Canada
N. B. LIVERMORE & CO., Los Angeles; San Francisco; Seattle; Portland, Oregon

TWO YEAR'S REPAIRS COST ONLY $4.00

These are the figures from a sand and stone company operating a

RUGGLES-COLES DOUBLE SHELL DRYER



This firm successfully dried 8 to 10 tons of wet sand per hour and 15 tons per hour of perfectly drained sand. After running continually 10 hours per day for two years, with the exception of about 3 weeks when the plant was being repaired, the owners report the dryer to be practically as good as new—an example of the Ruggles-Coles Dryer service.

Ruggles-Coles Dryers are also built to dry cement rock, clay, gypsum, marl, chalk, coal, organic materials, etc., etc. Over 14 year's experience makes us capable of drying anything.

Send us a sample of your material and let our] engineers figure on your requirements

RUGGLES-COLES ENGINEERING COMPANY

50 CHURCH STREET, NEW YORK. CHICAGO OFFICE, McCORMICK BLD'G.

37-34

LET US HELP SOLVE YOUR EXPLOSIVE PROBLEMS

Are you always sure the explosive used in your quarry is as efficient as a Du Pont explosive made exactly to meet your local conditions?

Does your cost of explosives compare favorably with results obtained?

THE ACCUMULATED

DU PONT

EXPERIENCE of 110 YEARS

Is at your service to give you practical information and advice regarding the selection and use of explosives for every blasting need.

Give us the data about that unsatisfactory blasting experience of yesterday and we will gladly assist you to overcome the trouble.

Let us help you out of your difficulty.
Address Dept. No. 115.

E. I. DU PONT DE NEMOURS POWDER CO.

ESTABLISHED 1802

WILMINGTON, DELAWARE

Pioneer Powder Makers of America

AETNA

40 per cent Aetna Gelatin is the best explosive for breaking hard rock in wet or dry work, because it contains within a given space the greatest amount of rending power at the right speed for rock breaking. Waterproof, dense, uniform.

THE AETNA POWDER COMPANY

7 SOUTH DEARBORN STREET, CHICAGO

Bank of Commerce Building ST. LOUIS, MO. | 33 North High Street COLUMBUS, O. | Woodward Building BIRMINGHAM, ALA. | Mass. Building KANSAS CITY, MO. | Torry Building DULUTH, MINN

Knoxville, Tenn. | Chattanooga, Tenn. | Iron Mountain, Mich. | Xenia, Ohio

Tell 'em you saw it in ROCK PRODUCTS

DIRECT HEAT

DRYERS

FOR

BANK SAND
GLASS SAND
ROCK, CLAY
COAL, ETC.

All Mineral, Animal and Vegetable Matter.

We have equipped the largest plants in existence and our dryers are operating in all parts of the world. Write for list of installations and catalogue S. C.

American Process Company
68 William Street, NEW YORK CITY

Y. M. C. A. BUILDING, MOLINE, ILLINOIS
MEDUSA WATERPROOFING Used Exclusively in Concrete Basement, Walls and Floors.

MEDUSA WATERPROOFING

(Patented April 23, 1907)

Makes Concrete Impervious to Water and Prevents Efflorescence.
Gives Absolutely Permanent Results.
Not a Wash or an Experiment.

Write for free illustrated booklets and samples of
MEDUSA WATERPROOFING
MEDUSA WATERPROOFED CEMENT
MEDUSA WHITE PORTLAND CEMENT

Sandusky Portland Cement Co.
SANDUSKY, OHIO
"See pages 72 and 170 Sweet's catalog"

Hollow Tile Walls Covered With Cement Plaster, Stained with Cream Waterproof Cement Stain.
F. S. Shapter, Architect, Summit, N. J.

Cabot's Waterproof Cement Stains

Soft, Artistic and Durable Colors, Completely and Permanently Waterproof

The two great defects of cement as a building material are its porous character and its cold, cheerless monotony of color. These stains cure both. They are thorough waterproofings, and they color the surface in soft, rich tones, without covering or spoiling the texture. They give no "painty" effect, and cannot crack or chalk or peel. They are cheap, easy to apply and thoroughly satisfying, both as to economy and beauty.

Send for circular showing colors

SAMUEL CABOT, Inc., Mfg. Chemists
BOSTON, MASS.
1133 Broadway, New York 350 Dearborn Ave., Chicago

Also Makers of
Cabot's Creosote Shingle Stains
Cabot's Waterproof Brick Stains
Cabot's Quilt
Cabot's Conserve Wood Preservative

THE CUMMER DRYERS

For Mechanically Drying Everything. The F. D. Cummer & Son Co., Cleveland, O.

WORRELL'S ROTARY DRIERS

FOR SAND, CLAY, ROCK PRODUCTS AND OTHER GRANULAR MATERIALS.

Excellent Results Moderate in Cost and Expense of Operation.

In sending for prices and printed matter describe your material fully, giving its percentage of moisture, required hourly capacity, etc.

S. E. WORRELL
HANNIBAL, MO.

(First Manufacturer of Rotary Fire Drying Machines in the U. S.)

Want to Sell Your Old Machinery? Use Our Classified Section. See Page 56

Lime Kilns and Plant of Blair Limestone Co., Canoe Creek, Pa.
Designed by

Henry S. Spackman Engineering Company
42 N. 16th Street Philadelphia, Pa.

CLB252450

ROCK PRODUCTS

ESTABLISHED IN LOUISVILLE, KY., 1902.
DEVOTED TO CONCRETE AND MANUFACTURED BUILDING MATERIALS.

Volume XI. **CHICAGO, JANUARY 22, 1911.** **Number 7.**

Publication day, 22nd of each month.

THE FRANCIS PUBLISHING COMPANY
EDGAR H. DEFEBAUGH, Prest.
Seventh Floor, Ellsworth Bldg., 537 South Dearborn St., Chicago, Ill., U. S. A.
Telephone Harrison 8086, 8087 and 8088.

EDITORS:
EDGAR H. DEFEBAUGH, FRED K. IRVINE.
MANAGING EDITOR.
BENJ. F. LIPPOLD.
ASSOCIATE EDITORS:
CHARLES D. WARNER, F. R. VAN HAMM

Communications on subjects of interest to any branch of the industry are solicited and will be paid for if available.
Every reader is invited to make the office of Rock Products his headquarters while in Chicago.
Editorial and advertising copy should reach this office at least five days preceding publication date.

TERMS OF ANNUAL SUBSCRIPTION.
In the United States and Possessions and Mexico.....$1.00
In the Dominion of Canada and all Countries in the Postal Union..... 1.50
Subscriptions are payable in advance, and in default of written orders to the contrary, are continued at our option.
Advertising rates furnished on application.

Entered as second-class matter July 2, 1907, at the Postoffice at Chicago, Illinois, under Act of March 3, 1879.

Copyright, 1912, by E. H. Defebaugh.

It would pay every concrete operator to use washed sand and gravel, even if he has to pay from thirty to forty per cent more for his material. It is the safest and soundest to use, and will do more to lessen the danger of failure than any other element.

From the program printed on another page in this issue, it would appear that the National Lime Manufacturers' Association is to have a rather busy and interesting session. It behooves every man interested in the success of the industry to be on hand. Many of the most prominent men are going to deliver papers or read addresses, and the convention will be crowded with good things from start to finish.

It would be a good idea if every crushed rock operator in this country could attend the meeting of the Ohio State Stone Club. This organization has been in existence for a number of years. It is composed of the best element in the business in the state, and is a live organization in every sense of the word. It is to be regretted that an organization of this kind cannot be formed in every state of the Union.

Since the publication of the report of the initial meeting of the National Association of Sand and Gravel Producers in the last issue of ROCK PRODUCTS, numerous letters have been received asking for further information. This organization has already enrolled a number of the leading producers in this country, and, from the amount of interest evinced, it bids fair to become one of the most powerful factors in the development of this flourishing business.

There were more concrete roadways constructed during the year 1911 than any previous year. The concrete roadway is meeting with great favor and it is to be hoped that the contractors will use the proper care, both in proportioning and mixing, as well as in the laying of same, so that there can be no possible chance of failure. It is a foregone conclusion that if proper precautions are taken, the concrete roadway will continue to be an unqualified success.

Despite the frigid conditions under which the Iowa Association held its annual convention and show, there was considerable enthusiasm manifested. This loyal band of concrete workers has done a great deal to promote the best interests of concrete in Iowa. There have been fewer, so-called, failures in this state than in any state in the Union in which an equal amount of concrete work has been done, which speaks well for the educational influence of the association.

It is not to the credit of the various trade papers representing competitive building materials to urge the character of warfare they are carrying on now through their publications. We have never investigated one of these, so-called, failures of concrete construction but that it has been found to be the fault of the engineer, contractor, or some one in charge. We say today, as we have said from the very beginning, that concrete, when properly made, is the most reliable, the soundest and the strongest building material known today.

The National Builders' Supply Association offers to assist the dealers in any locality who desire to form credit associations. The argument is offered that every business should have a limit to its credit, beyond which it is unsafe to go. This proposition is aimed at the irresponsible contractor who is either very slow to pay or never does pay, and whose bills the dealer is forced to carry. The idea seems to be a good one, and the National Builders' Supply Association has formed a plan which it says is entirely within the limit of the law, and is designed to better business conditions.

Although the year 1911, just closed, was not a highly satisfactory one, for the reason that building materials were sold at rock-bottom prices, in point of volume it compared very favorably with a great many preceding years. There should be no reason why 1912 should not be a very satisfactory one, despite the fact that it is a presidential year. The mere business of electing a president should not disrupt conditions nor halt big operations. While we are on the subject, would it not be a good idea to elect the president for eight years, instead of four, so that this upheaval every four years could be put off for a longer period?

As ROCK PRODUCTS goes to press, no doubt many of its readers are making preparations to go to New York to attend the various conventions and the show. From information at hand, it would seem as if the Builders' Supply convention and the National Lime convention would be the most largely attended in the history of these two organizations. No stone has been left unturned to make the Cement Products Exhibition Company's second annual New York show a tremendous success. It is said that there are some surprises on hand for those who visit the show this year. More attention has been paid to making the exhibits uniform, with the idea of making the show more spectacular and giving it greater interest to the public at large. All the old-time exhibitors are to be on hand, and a great many new ones. No man interested in the building material business or concrete industry can afford to stay away from this show.

Did you find a profit on last year's business over and above what you ought to allow yourself as a reasonable salary? That is to say, does your actual cash balance in the bank, plus the good accounts on your books, look to you as if you had been employing your time to advantage during 1911? How does this cash balance and book account look to you when compared with the amount that you owe? Think it over. If you find anything unsatisfactory about it, try to find the remedy and strive to be happy one year from now when you look over the results of 1912. Overhead expense, that's the bugbear. That is the thing which caused your trouble. These little odds and ends slip by and they amount to an astonishing sum; but one thing is certain, you have to pay every cent of it and many of you can find the profit you ought to have, buried here if you will only look for it. Mistakes and errors in judgment are the finest things in the world if we can only take advantage of them.

EDITORIAL CHAT

OFF FOR EUROPE.

Early this month F. S. Culver, the Rear Commodore of the ill-fated battleship Czarina which burned a month or two ago, sailed on one of the big liners for a trip abroad. He is of an investigating turn of mind and wants to see how the plaster business is getting on in the foreign lands and, therefore, he will probably spend some time in a long vacation and incidentally visit the operators on the other side.

He has been connected for many years with the plaster and retarder business, and is very familiar with the possibilities of the large operators of this country. He has been general manager of the National Retarder Co., Port Clinton, O., and was formerly connected with the U. S. Gypsum Co. for many years. His home is Port Clinton, O.

A Chicago shipmate advised some of his friends in foreign lands to see that he did not talk French or German the first week he was on the other side, but has not received any advices from the captain of the liner. He judges, however, that his shipmate Culver did not take command of the ship or do any dipping of water from the back end of the dinghe that was lashed to the liner.

There is no doubt that Rear Commodore Culver will come back with spats, because he is very adaptable to local conditions, but in the meantime the deck hands wish him bon voyage and trust their German cousins will treat him like a long lost friend, as he deserves it, and probably will long for his old pals.

SOME CONCRETE PHILOSOPHY.

Did you ever observe a pile of gravel or crushed stone in the street waiting to be dumped into the mixer?

Some of the pieces of stone are small and some are large. Yet each of the small ones is just as important as the large ones, because they will help to bind the large pieces together—fill the voids.

Pretty soon the laborers come along and fill wheelbarrows with the stone, and it goes into the mixer with the sand, cement and water. Then it comes out of the mixer and is placed in the forms, and soon becomes concrete—one solid mass, in which every stone has its part to play, its burden to bear, in maintaining the integrity of that piece of concrete.

Here are a lot of men in a trade. Some are small, humble. Others are large. Along comes a man and invites them into an association. The association convention is the mixer. The small and the large are thrown together and cemented with good-fellowship, and then the mixture is placed out in the world.

Each member, the small and the large, has his part to play and his burden to bear for the association, just as each stone in the concrete has its burden to bear. Each member of the association is as important, both the small and the large, as every piece of aggregate in the concrete is necessary for the integrity of the work.

Your association needs you at some time in the next ninety days. If there's a sermon in stones, there is here—crawl into the big mixer, your convention.

A. C. Horn, the well known waterproofing expert of New York, was in Chicago recently on business.

The first course in highway chemistry that has ever been offered in any college has just been announced at the Oregon Agricultural College at Corvallis. Professor John Fulton's course includes both physical and chemical tests of tars, bituminous products, asphalts and all mixtures, such as sands, gravels, rocks and other ingredients of the modern highway. Concrete testing and tests of the chemical changes in all these substances by exposure to the weather will form an important part of the work, as will also the chemical study of surface protection, such as viscous oils.

HAD OCCASION TO KNOW.

The Girl—"I'm shocked at the way father treated you. I've almost worshiped papa, but it seems my idol has feet of clay."

The Suitor—"Clay? Concrete, more likely!"—Boston Evening Transcript.

THE NIGHT BEFORE.

By H. V. R. Palmer.

'T was the night before Xmas and raining like fun,
A more disagreeable Xmas could not have begun;
Instead of the snow there were oceans of mud,
That brought the spirit of Xmas down with a thud.

Santa Claus can't come with his reindeers tonight,
For wheeling's too hard—besides, that's not right.
So out of the North, via aeroplane flight,
He comes to bring joy to the children tonight.

A. Baumberger, Kansas City, Mo., was in Chicago the other day on a flying visit. He was looking the picture of health and was kept busy shaking hands with his friends while in town.

James B. Bernard blew into Chicago the other day on his way to Mexico. Since "Jimmie" has been selling Allentown Portland cement he has been making things hum. He recently closed a contract for 300,000 barrels to the Mexico Northern Power Company, who are building a concrete dam on the Concho river, near Santa Rosalie, Chihuahua, Mexico. This dam will be used to create power and also for irrigation purposes. The Mexico Northern Power Company is a $15,000,000 corporation controlled by Montreal, Canada, and English capitalists. The cement will be shipped at the rate of 1,000 barrels a week for the next ten months to come. It will be shipped by rail to Jersey City

F. S. CULVER, PORT CLINTON, O.

and thence by Ward Line steamers to Tampico, Mexico, from which point it will be transferred by the National Railway to Santa Rosalie. Mr. Bernard was somewhat elated over the capture of this contract as he won out in strong competition.

Edward E. Buhler Company, 103 Park avenue, New York City, N. Y., recently received an inquiry from Pye, Parkinson & Co., Ltd., Cwmbwrla, Swansea, asking for circulars and price on their hook curb bar. Mr. Buhler was somewhat surprised at getting this inquiry from Wales, but, we assured him that if he keeps his advertisement in long enough, he is very likely to get inquiries from the four corners of the earth, since ROCK PRODUCTS numbers among its subscribers residents of many lands and climes.

Harmon S. Palmer, who is best known as the original patentee of a hollow block machine in this country, is now sojourning in Paris, France. We had the pleasure of reading a letter from him not very long ago, in which he describes some of the places he has seen in his travels. We did not know that our friend Palmer was a second Frank G. Carpenter. It is safe to say that if he ever gets out of the concrete block machinery business, he will be able to earn a very comfortable income from writing descriptive stories for magazines.

William Yeo, Dunbar, Pa., in renewing his subscription to ROCK PRODUCTS, says, "I enjoy the magazine very much."

History Makers of the Building Material Industry

When you dig around in any great organization to discover the secret of its power you find as a rule that it emanates from one master mind, just as the big wheels and the little wheels and the gears in a great mill get their power and impulse from the great engine that is hidden away in the depths.

A man of slender frame, jet black hair, sharp features, clean cut. A man of quiet dignity that inspires respect. Alert and quick. This is the dynamic force that permeates every department of the Universal Portland Cement Company—Edward M. Hagar.

At every session of the Association of American Portland Cement Manufacturers he is a familiar figure, and as president of the Cement Products Exhibition Company he is brought more intimately in touch with the rank and file of the great army of allied interests that make up this fast growing industry. If you attend any of the three great shows you will meet him, possibly, for the show is his pet, as, like all other progressive men, he believes in educating the public in the uses of cement, and he also believes in the value that comes from the good fellowship and association of men engaged in the same line. Indeed, these features of the cement show are its most prominent characteristics.

Edward M. Hagar, president of the Universal Portland Cement Company, was born at Salem, Mass., June 21, 1873. Everybody is familiar with the Salem martyrs. So, in keeping with the spirit of his native town, Mr. Hagar becomes the martyr to the cause of cement this month, for this rude violation of his sense of extreme modesty places him in the category of those heroes of the early days who made material for the school history courses. He received his early training at the Chicago Manual Training School, graduating in 1889. Then he attended the Massachusetts Institute of Technology where he graduated in 1893, receiving the degree of S. B. He took up a post-graduate course at Cornell, where he received the degree of M. M. E.

Thus equipped for business life, Mr. Hagar became the manager of the Chicago office of the Southwark Foundry and Machinery Company, engine builders, of Philadelphia. From January 1, 1897, to January 1, 1900, he was a member of the firm of Edward M. Hagar & Co. in the engine and machinery business.

January 1, 1900, is the date of Mr. Hagar's first introduction to the cement business. At that time he became manager of the cement department of the Illinois Steel Company. He first placed Universal Portland Cement on the market in May of that year. On October 1, 1906, the cement business of the Illinois Steel Company was taken over by the Universal Portland Cement Company, a new subsidiary of the United States Steel Corporation. Under his management this company has grown from an output of 32,000 barrels in 1900 to 10,000,000 barrels in 1911.

Mr. Hagar is a member of the American Society of Mechanical Engineers, American Society of Testing Materials, American Society of Civil Engineers, Western Society of Engineers, American Institute of Mining Engineers, American Iron and Steel Institute, Illinois Society of Engineers and Surveyors, president and chairman of the Executive Committee of the Association of American Portland Cement Manufacturers, president and director of the Cement Products Exhibition Company, Engineers' Club of New York, Chicago Engineers' Club, University, Union, Chicago, Onwentsia and Automobile Clubs of Chicago and the Duquesne and Country Clubs of Pittsburgh.

Mr. Hagar is known in the trade for his intimate knowledge of the intricate details, not only of the plants over which he has control, but also for his knowledge of the thousand and one matters of administrative detail. The Universal organization does not contain one element of friction. Each one of the men Mr. Hagar has gathered around him, from the highest to the lowest, is capable and loyal not only to the chief but to the company's interests. Every man, from Mr. Hagar down, believes in Universal Cement, and each has the faculty of making others believe in it.

Occasion has been taken a number of times in these pages to speak of the value that results from perfect accord in a body of men. No business can thrive without it. Mr. Hagar believes in associations and the help for the whole body of men engaged in any enterprise that comes from their

THE RECEPTION COMMITTEE OF THE LIME CONVENTION ARRIVING IN NEW YORK.

frequently meeting and talking over affairs of mutual interest. No business can succeed if the head of it does not concern himself with the details and keep in touch with the men in the organization. Mr. Hagar is interested in what every one of his men is doing. This idea holds in the Association of American Portland Cement Manufacturers, in the Cement Show—and you see the effects in the Universal Portland Cement Company. It is the "man to man" idea that binds the individuals into a compact whole that is invincible. It is a vital factor in modern business organizations, is this good fellowship idea, and must spread the world over and be—universal.

Bernard L. McNulty, has recently been appointed general sales manager for the Mitchell Lime Co., with headquarters in Chicago, in the People's Gas building. Mr. McNulty has been handling the output of several large lime plants in this territory for the past several years. He is, perhaps, best known to the trade, however, through his long connection with the editorial staff of ROCK PRODUCTS. While a comparatively young man, he brings to his position a vast amount of experience in the lime business, and it is safe to say that there is no better or more thoroughly posted man in this country today on the lime situation. His friends all over the country join with ROCK PRODUCTS in wishing him every success. It goes without saying that he will make good, because he combines the elements which are necessary to success.

The Virginia Lumber Manufacturing Co., Roanoke, Va., in a recent letter, have the following to say regarding ROCK PRODUCTS: "This is a good journal of its kind, the only trouble the writer finds is that he does not have time to read it as he would like. I find a good many interesting subjects on rock products."

W. H. Ford, the general sales manager of the Canada Cement Company is mending rapidly, and expects to be about soon. In fact there is every probability that he will be on hand at the New York Cement Show. He has been resting at Summerville, S. C., since his accident to his foot.

Harry Wood Hopkins, structural engineer employed by the Portland Cement Pile and Equipment Company at Portland, Ore., and Miss Harriet Beatrix Andrews, of Mattoon, Ill., were recently married at Mattoon.

CEMENT EXPERT DIES.

Charles Tinsley Eckert, one of the best known cement experts in the United States, died suddenly in Allentown, Pa., on January 3, aged 49 years. In connection with his brother, John W. Eckert, president of the Allentown Fair, he established the American Cement Company, which he long helped to manage. For many years he had charge of the company's mill at Jordan, N. Y.

HEADQUARTERS.

The Hotel Imperial the Ideal Place For Those Who Attend Show or Meetings in New York.

The question as to where to stop while in New York at the cement show or any of the meetings attending that event is easily decided. The Hotel Imperial, Broadway, Thirty-first and Thirty-second

BERNARD L. McNULTY, GENERAL SALES MANAGER. THE MITCHELL LIME COMPANY.

streets, is without doubt the most desirable for building supply, cement and lime men. It is convenient to Madison Square Garden at Twenty-sixth street and is equally convenient to the Hotel Astor, where the National Builders' Supply convention and the National Lime Manufacturers' Association will meet. In other words, it is midway between the two points of interest, Madison Square and the conventions.

It is in the very heart of New York. Within walking distance are nearly fifty theaters. The Pennsylvania station is nearby, as are also the Hudson tubes, the elevated and the subway.

The house itself is regarded as the best hotel in New York from a standpoint of comfort, service, courtesy and price. A good room can be had at $2 a day.

If you are intending to go to New York for the show or either of the meetings you should write at once to the Hotel Imperial for a room.

The headquarters of ROCK PRODUCTS will be there and all those in attendance at the National Builders' Supply convention or the National Lime Manufacturers' convention are invited to make themselves at home in ROCK PRODUCTS headquarters. In writing for reservations address Copeland Townsend, manager.

The Clark Coal & Brick Company, of Pittsburgh, Pa., has been formed with a capital of $250,000 by Charles B. Clark, Pittsburgh, Pa., Ralph C. McConnell, Washington, Pa., and Campbell Jones, Bethany, W. Va., to mine coal and manufacture brick.

The I. N. Willis & Company has been incorporated at Table Grove, Ill., with capital stock of $25,000, to deal in building material. The incorporators are: D. B. Carithers, A. Bartholomew and Q. D. Baily.

Work was begun last month on the rebuilding of the plant of the Quincy-White Lime & Cement Company, Quincy, Ill., which was destroyed by fire last October. The new buildings will be of the same dimensions.

SMITH, EMERY & COMPANY
SAN FRANCISCO

December
Thirtieth
1911

Rock Products,
Chicago, Ill.

Gentlemen:

We desire to express to you during this right merry holiday season our appreciation of the able manner in which your Journal has been conducted during the past year.

Wishing you new successes for the coming twelve months, we are,

Most cordially,

Smith Emery & Co

A. H. GALLAGHER NOW GENERAL MANAGER.

It has been announced by the National Retarder Company, successor to the Binns Stucco Retarder Company, Uhrichsville, Ohio, Ohio-Binns Retarder Company, Port Clinton, Ohio, and Chemical Stucco Retarder Company, Webster City, Iowa, that F. S. Culver, who has been connected with the retarder industry since its first inception, has retired, and his interests have been acquired by other stockholders.

AL. H. GALLAGHER, TOLEDO, OHIO.

A. H. Gallagher, who has been in charge of the sales, succeeds Mr. Culver as general manager of the company, and their operations will be even on a greater scale during 1912. The aggressive sales manager will make a still more aggressive general manager. If there is anybody in the plaster business who does not know Al. Gallagher, it is time they got acquainted with him—he of the white locks and white clothes. He is an aggressive business man and is always ready to talk about his business and give your orders his best attention.

The main office will continue at Port Clinton, Ohio, with plants at Port Clinton, Ohio, and Webster City, Iowa.

The Interborough Engineering and Construction Company, of Fort Gibson, Okla., has been incorporated with a capital stock of $2,000. The incorporators are: Eustace A. Hill, of Fort Gibson; Harley R. Hinton and William E. Davis, both of Muskogee.

The Simpson Construction Company has been incorporated in Chicago, Ill., with a capital stock of $20,000, to do general contracting, construction and engineering work. The incorporators are: Rasmus Hansen, Charles C. Hansen and J. Scott Matthews.

ROCK PRODUCTS will be pleased to have you call at its headquarters, the Imperial Hotel, during the Cement Show.

The Parmley & Nethercut Company, Upper Montclair, N. Y., has been incorporated with capital stock of $25,000, to deal in cement products and building materials. The incorporators are: W. C. Parmley, R. W. Parmley and J. H. Parmley.

The St. Louis Supply & Equipment Company has been incorporated at St. Louis, Mo., with capital stock of $2,000, to deal in building materials. The incorporators are: James J. Gallagher, Oliver J. Grave and Daniel F. Meehan.

G. Ittenbach Company, Indianapolis, Ind., has been incorporated, with capital stock of $75,000, to manufacture and sell building materials. The incorporators are: J. B. Ittenbach, E. F. Duex, and others.

MASTER BUILDERS' ASSOCIATION.

Sketch of the History of Its Twenty-five Years of Existence in Boston, Massachusetts.

Among the building organizations of the country, the Master Builders' Association of Boston occupies a prominent position, both in the length of time it has been organized and the influence it exerts in the leading city of New England.

Interesting particulars regarding this association were furnished by its secretary-treasurer, W. H. Sayward, who since its formation has had the general management of its affairs.

The beginnings of organization among contractors in the building business in Boston are not obtainable from any actual records. Tradition indicates that many years ago, probably as early as 1845, those who were engaged in carrying on the various branches of building work found it convenient to assemble at noon-time near the Old State House on State street. In those days very few of the "mechanics," as they were then called, had offices. Those who by the nature of their work were obliged to have shops naturally had offices in connection therewith, but the large majority—masons, carpenters, painters, plasterers, etc.—kept their books and did their accounting at home. At the time referred to this was also the practice in other large cities. The basement of the Old State House afforded a place where business that required writing could to some extent be done.

After a time the increasing demand for accommodations led to the equipment of a room in the basement of a building at 23 State street. This first domicile for the use of builders as a rendezvous was a private venture undertaken by James Curtis, who rented "order boxes" to the various contractors, and furnished desks, stationery, etc., for their use. It does not appear that any distinct attempt at organization was made at that time but some years later, or about the years 1862-1865, there must have been some form of organization, as a new location at 16 State street was occupied, which was known as "The Mechanics' Exchange." From this place the Exchange moved to 23 Court street.

It was during the stay of the Exchange at the last mentioned location that the first steps were taken which led to the formation of the Master Builders' Association. Early in 1871 the Exchange was again moved, this time to 35 Hawley street, where very much better quarters were obtained than any previously occupied.

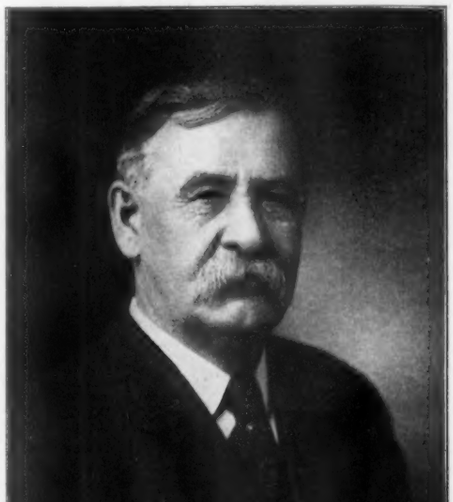
The membership was now large, but not homogeneous, and insuperable difficulties presented themselves whenever an attempt was made to do something definite and progressive. Finally, a few of those who believed in a different order made up their minds to start a new organization. Ultimately sixty-three concerns became charter members of the new organization, which was entitled "The Master Builders' Association of Boston." It was planned that the government and control of the new organization rest with those who were carrying on construction work, while those who were simply sellers of building material, etc., while eligible to exchange privileges, were not entitled to take part in the conduct of affairs.

—Wichita Eagle.

Do you belong in this bunch?

DEATH OF MR. GRIFFIN.

Edwin C. Griffin died December 10 last in Boston, Mass. He was best known to the readers of ROCK PRODUCTS and more particularly to the manufacturers of Portland cement as the inventor of the Griffin mill. The first or single roll Griffin mill was built in the year 1885 and since that time many improvements have been made. The present Giant Griffin Mill is the evolution of the original mill differing, however, in many essential points from the original. Mr. Griffin had been connected with the Bradley Pulverizer Company who are manufacturers of the Griffin mill and other machinery for a large number of years. Although a man of stern exterior and abrupt manner he was at heart very kindly and charitable. He numbered among his friends many of the largest cement manufacturers.



THE LATE EDWIN C. GRIFFIN, BOSTON, MASS.

CREDIT ASSOCIATIONS.

Secretary of National Builders' Supply Association Offers to Help Organize Them in Any Locality.

Secretary Dinsmore of the National Builders' Supply Association has struck a popular chord among dealers by suggesting the formation of credit associations in various localities, in which work he offers to assist the dealers who desire such a help for their business.

It is a fact that the bane of the building supply business is the contractor who is slow to pay, or who overreaches his credit and the dealer is forced to carry him on his books. But the dealer has to pay the wholesaler on time just the same. Instances are numerous where contractors buy a little from one dealer, a little more from another and still more from a third, using his credit to the limit with each one and later being unable to pay his bills.

The safe conduct of any business, especially that of the dealer in building materials, requires a dead line on credits, that is, a limit beyond which it is not safe to go. It may be $500 in some cases and $500,000 in others, but in every case there is a limit beyond which it is not prudent to go.

An information bureau entirely within the law, giving privileged information to its members, not a blacklist, would cure all these credit evils. You would know all the time how much the various contractors in your vicinity were buying and you could adjust your credit accordingly.

On the other hand, the bureau would in reality be a benefit to the contractor who pays his bills, for it would in effect prevent the irresponsible man from doing business.

Secretary Dinsmore will be glad to assist the dealers in any locality who desire to form such an association. He can be addressed at the headquarters, Wilmington, Del.

The world is recognizing Oklahoma as an important producer of cement. The state produced three and a half million barrels last year

FOR THE RETAILER

TO ALL DEALERS.

The annual meeting of the National Builders' Supply Association will be held in the Hotel Astor, New York, January 30 and 31, during the cement show. Every dealer owes it to himself and the business he represents to be present on that occasion and lend his influence either directly or indirectly to the common cause.

The program includes many things that are of the greatest importance to both small and large dealers. It makes no difference whether your business is small or great. If it is small, by your increased knowledge gained at these meetings you will make it great. If it is great now, your attendance there will help to keep it great.

The cement show, the meeting of the National Lime Manufacturers' Association and other attractions make the time one of special advantage to you.

Before another month rolls around the annual meeting of the National Builders' Supply Association will be a matter of history. The question now is with each one identified with the building material industry whether he will be there. Some are prone to say to themselves, "I guess they can get along without me."

Well, may be so. The world can get along without most any of us. Things go along about the same whether we are in them or not. Should not the question be, "Can I get along without them?" When you come to think of it, you cannot. By going to these meetings and rubbing elbows with others of your trade you get inspiration and ideas that will help you during the year and make you a bigger man even if you are big now.

The association may get along without you, but you can get along better if you are in it and at its meetings.

You will learn how to make the man cheer up who was going to build this year but who thinks he wants to wait and see who is to be elected president. You will learn how to make him think differently and induce him to do his building now. ROCK PRODUCTS has promised President Warner not to publish the antidote, so you will have to go to New York to get it.

Those at the meeting will also be told how to make more money in their business. This will also be told only to those who attend. It will be worth many times the expense of the trip and, our word for it, you will have your money back as soon as you put into practice the system you will learn there.

So with these things in view you will get more than your expenses out of the meeting alone, leaving the cement show, the National Lime Manufacturers' meeting and anything else you attend as clear velvet. It would seem that it is a shame to throw money deliberately away by staying home.

The Executive Committee has approved of holding one full business session on both days, starting at 10:00 a. m. and continuing until about 3:00 p. m., in time for a late luncheon. It is believed that this arrangement will be acceptable to most of the members and will secure the fullest possible attendance, at the same time allowing time during the early part of the morning for attending to personal business, and during the latter half of the afternoon for personal business or Cement Show attendance.

The following papers will be presented during the various sessions:

"Industry as Related to Labor," Hon. Seth Low, New York City, president of the American Civic Federation and former mayor of the city of New York.

"The Value of Cement Shows to the Manufacturer and Dealer," Mr. Edward M. Hagar, president of the Universal Portland Cement Co., and president of the Cement Products Exhibition Co.

"Auto Trucks," Mr. Irving Warner, plant manager of the Charles Warner Co., Wilmington, Del.

"Legal Reforms," Mr. Charles Freeman Johnson, director of the National Legal Reform Association, New York City.

"'Profit and Loss' of our National Association," Mr. J. C. Adams, of the D. J. Kennedy Co., Pittsburgh, Pa.

"Lien Laws," Hon. Thomas Goldengay, Newark, N. J.

As has been the custom in previous years, a banquet will be held on the evening of Wednesday, January 31, in the Belvedere room of the Hotel Astor.

In view of the expense and special features that have been provided the Executive Committee has decided to make a nominal charge of $5.00. This will include music, singing, wine and cigars.

This banquet is usually a very enjoyable affair and adds the final touch to the convention. There will be several very interesting and witty speakers. Mr. Charles Warner will act as toastmaster. Following is a list of speakers:

"Things We Can't Forget," Rev. Warren Giles, pastor First Reformed Church, East Orange, N. J.

"Legal Aspects of Association Work," Mr. George W. Alger, New York City.

"Play the Game," Mr. James W. Wardrop, of the Pittsburgh-Buffalo Co., and former secretary of the National Builders' Supply Association.

"The National Banking System—from the Business Man's Point of View," Mr. William E. Carson, president of the National Lime Manufacturers' Association and president of The National Citizen's League of Virginia.

OHIO DEALERS.

The Ohio Builders' Supply Association will hold its annual meeting at the Algonquin Hotel, Dayton, January 25 and 26. The meeting this year promises to be of unusual interest on account of the questions that are to come up for discussion, principal among which are the one cent letter postage proposition, which is now before Congress, and the relation that the association should sustain to the Federation of Retailers organized last fall in Chicago. The attendance of every dealer in Ohio is urged and it is probable that the attendance will be unusually large.

NEW ENGLAND DEALERS.

The New England Builders' Supply Association, which made its debut last summer, is flourishing in every way and the members are enthusiastic over the advance that has been made. It is seldom that the men in any trade have taken hold of the association idea with as much enthusiasm as has been displayed in New England.

Reports from many of the dealers show a fair amount of business and they are all satisfied.

The New England dealers, in general, have had a very successful year. A great many contracts have been awarded to New England firms and the New England dealers have been fortunate in keeping a great deal of this business inside of their territory. The money market has been easy and few failures have been noted either among the dealers or the contractors.

While at the present time there is not much in the wind, and despite the fact that next year will be presidential year, the dealers think they will be able to walk up to the dough bag and fill their pockets with the necessary orders.

The city of Providence contracted for its sewer pipe, recently and the contract was awarded the Manchester and Hudson Co., of Providence, who are going to use pipe manufactured by the Portland Stone Ware Co., of Portland, Me.

There is one matter which is arousing the interest of the New England trade at the present time and that is the question of using hydrated lime. A representative of one of the largest manufacturers of hydrated lime in the eastern states advises that the shipments of that material into the New England states has increased nearly nine hundred per cent in the last year, so that it is evident that New England dealers are waking up.

The New England Builders' Supply Association is fast outgrowing its childhood days. Every week sees additions to its membership. The dealers realize the benefits which are to be derived from co-operation in their chosen work and are not backward in enrolling their names for this cause. The annual meeting of the association is to be held in Boston about the middle of February and the members look forward to having a large attendance and many interesting discussions.

BUILDING IN TOLEDO.

Building operations in Toledo, Ohio, in 1911 as shown in statistics gathered by the Commerce Club amounted to $10,000,000. Of this amount there were 569 houses ranging in value from $1,500 down, costing a total of $560,830; 360 houses ranging in value from $1,500 to $4,000, aggregating $808,105; 37 houses ranging in value from $4,000 to $10,000 and aggregating $215,550; seven houses costing above $10,000 and aggregating $100,210. During the 11 months new factories which will spend $3,375,000 in new plants and equipments were announced; additions and improvements aggregating $4,009,000 were built or announced.

THE UNITED BUILDING MATERIAL COMPANY

Addison H. Clarke, the president of the United Building Material Company, of Baltimore, in a recent letter to the trade said: "For some time past the building material business in Baltimore has been unsatisfactory owing to the ruinous competition and price cutting of the dealers.

"The United Building Material Company has been incorporated for the purpose of benefiting both manufacturer and dealer by acting as a general storage and warehouse company for the trade, the stockholders to be composed of manufacturers and dealers.

"The purpose of the organization will be to harmonize different factions in the trade and to assist in overcoming and adjusting any differences that may arise between individual manufacturers and dealers.

"It is expected that good fellowship will be created by frequent meetings of stockholders and directors.

"The powers conferred upon the corporation by the charter are broad and comprehensive and well calculated to benefit the trade.

"The possibilities for the profitable growth and expansion of such an organization are almost unlimited as the trade can extend to all parts of the United States and to foreign countries."

J. W. Tate, of Centralia, Ill., has opened a branch yard at Shattuc, Ill.

The retail yard of Cowan & Mitchell at Grand Prairie, Tex., was destroyed by fire; loss $15,000.

The Koch Builders' Supply Company, of St. Louis, Mo., has increased its capital stock from $25,000 to $35,000.

A new firm known as the Cotulla Lumber Company has opened a retail yard at Cotulla, Tex., with Roland A. Ganger as manager.

The Joliet Grain Company, of Joliet, Ill., has been incorporated with a capital stock of $10,000 to deal in grain, feed, coal, cement and other supplies. The incorporators are John Coyne, John Finney and Edward C. Hall.

The Irving Park Lumber and Supply Company, of Chicago, Ill., has been incorporated with a capital stock of $10,000 to deal in building materials. The incorporators are Thomas Byrnes, Paul T. Diener and William Karr Steele.

The Edwards & Wharton Lumber Co., of Aledo, Ill., has been incorporated with a capital stock of $10,000 to deal in lumber, paints, varnishes, farm implements, etc. The incorporators are H. W. Edwards, W. A. Wharton and J. I. Edwards.

James Ricketson, senior member of the well known firm of Ricketson & Schwarz, Milwaukee brick and building supply jobbing concern, celebrated his fifty-fourth birthday on December 31. Congratulations poured in by wire and messenger on the popular business man. George F. Schwarz, junior member of the firm, has just returned from a trip abroad.

The L. D. Whetmore Company, Ltd., at Warren, Pa., which was established in the early seventies as Dunham-McDonald & Co. and later changed to Clark-Morris & Co., is now employing nearly thirty men at its plant. The company is carrying the largest stock of building materials, lumber and shingles that it ever had. Its officers are E. D. Whetmore, president; J. P. Jefferson, vice-president, and C. J. Reese, secretary, treasurer and manager.

The new offices of the Youngstown Ice Co., in the new fireproof Stambaugh building, are among the finest builders' supply offices in the United States. "Teddy" Walton and "Eddy" Holway are always on the job. At least one of them is sure to be found on deck at any time. They are both gentlemen of excellent taste and that is the reason why they have decorated so elaborately to surround themselves with the beautiful things of life. Success has always crowned the efforts of this leading concern. No small part of their success is due to the personnel of the gentlemen on the job.

NEW YORK RETAILERS.

New York City, Jan. 15.—There is dissatisfaction generally among dealers in masons' supplies in this city. The year 1911 was dull and prospects for the immediate future are considered problematical. Building operations received a decided check last year, due, it is said, perhaps more to the unsettled conditions in business and financial circles than to any overbuilding. It was difficult to effect loans for building operations last year, collections were poor and business generally unsatisfactory. This year, however, will see many public and private improvements inaugurated and brought to completion in the way of immense business structures and the building of the subway to Jerome avenue and its extension to Mott avenue—which will open up new districts for building operations. These projects will require vast quantities of cement and building materials and create an activity which will make the men in building circles quickly forget the unsatisfactory conditions which existed last year.

Among the prominent and progressive firms of New York City is the Edward E. Buhler Company, wholesalers and manufacturers of clay products and masons' building materials. The business was established fifteen years ago and the company incorporated in 1907. It operates a number of yards; one big yard and warehouse at Long Island City, centrally located, has a water front and switches from the Pennsylvania Railroad, over which material is shipped connecting with all roads centering in New York. The yard at Harlem is used for a stone yard; the one at 310 E. 38th street and one at Queens all have railroad switches, splendidly equipped and arranged for handling materials economically and insuring prompt deliveries. The officers of the company are: E. E. Buhler, president and manager; Edward J. Corrigan, vice-president; John Buhler, treasurer, who has been prominently identified in his connection with the Supreme Court of the state and now a municipal judge in Minneola, Long Island and in politics known as "Honest John"; Albert F. Buhler, secretary. The heads of the various departments of this company are well known in building circles of New York for their thorough, practical and technical knowledge and efficiency concerning material needed by contractors; the general offices are under the management of E. B. Entwisle; the sewer pipe and flue lining department is in charge of Albert Buhler; W. Klinger is the manager of the tile roofing department; E. J. Corrigan has charge of the cement and line department; Chas. E. Husson has charge of the terra cotta block department; A. R. Plumridge is the head of the bath room and quarry tile department; George Hauletzer handles the collections, and Warren E. Green is general advisor of construction work. He is well qualified for the position being one of the prominent builders in New York City. The company has inaugurated a system of prompt deliveries using five automobile trucks and thirty teams. The company in its various departments and yards has one hundred men on its pay roll, just for handling building material in New York City. It manufactures the well known Buhler Dove Tail Vitrified Building Block, the Buhler Double Inter-locking and Spanish Roofing Tile and handles Alpha, Lehigh, Edison, Vulcanite, Penn Allen, Portland Cements and is the eastern agent for the Universal Portland Cement Company; Acme Wall Cement Plaster of Miller & Co., Brooklyn, N. Y.; fire brick of the East Ohio Sewer Pipe Company, metal lath of the Sikes Lath Company; Sandusky Portland Cement Company's white cement, water-proofing compounds; pressed brick of the Bradford Brick Co., Bradford, Pa.; common brick of The Greater New York Brick Company; lime of the West Stockbridge Lime Company, West Stockbridge, Mass., and in fact everything in Clay Products. The E. E. Buhler Company does a large contracting business on the roofing propositions, confining its activities to putting on buildings only roofs. "Business," said Mr. E. E. Buhler, "was not as good the past twelve months as the year before in building material, because of unsettled conditions generally in the country and an inclination to tighten loans on building operations.

The plant of the Dyset Sand Lime Brick Company is located at Port Jefferson, Long Island, N. Y., while its general offices are at 153 Park avenue. It manufactures white sand lime brick, which the Building Department of New York City tested and authorized their use on any job. These tests here are more rigid than most cities throughout the country. The ground upon which the factory stands is about six acres in extent. The factory is 290 feet long; its greatest width 80 feet. The curing part of it is 52 feet wide and 168 feet long; it contains two cylinders, 100 feet long, with room left for two more of the same size; the elevation of this building is 60 feet high, one story. The factory was designed to have a capacity for manufacturing 200,000 brick a day. Its present capacity is 100,000 brick a day. Its dock is 200 feet long with eleven to thirteen feet of water. The equipment of the factory consists of a dryer installed by the American Clay Machinery Company; a

EDWARD E. BUHLER, NEW YORK, N. Y.

Schmidt Tube Mill capable of grinding enough material for 100,000 brick daily; four silos each containing material for a hundred thousand bricks; a mixer and plug mill; lime crusher; elevators galore for elevating sand, lime, etc.; a Corliss engine of 300 h. p.; battery of three Heiner Water Tube boilers of 150 h. p. each, with room for one more. On the six acres which the company owns and on which the factory is located are practically inexhaustible sand pits, out of which it gets all the sand it needs for the manufacture of its brick. James H. Dyset has recently invented a brick press, the great feature being its automatic conveyor. It can put out 100,000 brick in a day of ten hours. Another feature is its initial pressure, which breaks up the lumps in the material and fills up all the corners of the moulds, distributing the material evenly. These features are new in brick presses and will prove of great advantage in making brick. Mr. Dyset will place this press on the market soon. The officers of the company are Otto Hoppe, president; Frank A. Howson, vice-president; Geo. E. Darling, treasurer; E. H. Mangels, secretary, and J. H. Dyset, general manager. The company was incorporated in 1908 and commenced operations six months ago.

Among the large dealers in masons' supplies in New York City is the N. & W. J. Peck Co., with

E. E. BUHLER'S RESIDENCE AT QUEENS, LONG ISLAND, ROOF OF BUHLER TILE.

general offices at 103 Park avenue and yards located at the foot of 47th and 48th streets and the East River. These yards occupy a full block and have a river frontage of 210 feet. This business was established in 1891 and incorporated June, 1909. The company carries a complete line of masons' building material including Atlas, Penn Allen, Alpha, Saylor's and Vulcanite Portland Cements; Rosendale Natural Cement; Windsor's cement plasters of J. B. King & Co. and Cement Mortars made by the Rock Plaster Manufacturing Company; North River brick of The Greater New York Brick Company; lime of the Palmer Lime and Cement Company; Imperial lime manufactured by William M. Hoag Company, New York City; various brands of non-staining cements, Atlas White and Medusa White Portland Cements; Sackett's and J. B. King & Company's plaster boards; white sand and Rockaway sand. W. J. Peck stated that business last year had not been as good as usual but believed that the outlook was not particularly bad. The officers of the company are: Nathan Peck, president; William J. Peck, treasurer, and Robert T. Boyd, secretary.

An immense business has been built up in the plaster trade in New York City by the Noonan & Price Co. of East 137th street, having made a specialty in catering to plastering contractors for a number of years. The company carries principally cements, plaster and lime. Its yard at 11 to 15 East 137th street, runs through to East 138th street, Nos. 14 to 16. This business was established at this location ten years ago and incorporated 1908. This yard has access to the Harlem River and New York Central lines. The officers of the company are: James J. Noonan, president, and John A. Price, treasurer and secretary. It handles the Dragon brand of the Lawrence Portland Cement Company; plaster of the United States Gypsum Company, and J. B. King & Co.; Sackett plaster board of the United States Gypsum Co. and J. B. King & Co.; lime of The Rockland & Rockport Lime Company, Farnham Cheshire Lime Company, Cheshire, Mass., and Fay Bros.' West Stockbridge, Mass.; hydrate of lime of the Kelley Island Lime & Transport Company; marble dust of J. B. King & Co. and a large stock of wood lath. The company will open a large yard at Millfarms Road, 174th street and another at 51st street between 12th and 13th avenues early this year.

William T. Hookey, whose main yard and office is located at 129th street and Third avenue, is the successor to the business established originally by Manchester & Philbrick, fifty years ago. He carries a large line of masons' supplies. His warehouse has a storage capacity of 10,000 barrels of cement. His storage yard is located at E. 185th street. He employs twenty teams to haul materials to jobs. The territory he supplies with builders supplies ranges from 59th to 225th street. He handles Lehigh, Allen, Atlas and Knickerbocker Portland Cements; plaster of J. B. King & Co. and the Rock Wall Plaster Manufacturing Company; lime of the Rockland & Rockport Lime Company, Rockland, Me.; Farnham, Cheshire Lime Company, Cheshire, Mass.; hydrate of lime from the Kelley Island Lime & Transport Company; wood lath, hair of the Illinois Leather Co., Chicago, Ill., and Densten Hair Company, Peabody, Mass.; sand, gravel, crushed stone, etc. He reported business very unsatisfactory, due partly to overbuilding and general unsettled conditions throughout the country. Prospects for this year he considered, however, bright, as building operations in his opinion will receive fresh impetus by the building of the subway to Jerome avenue opening a new district in which large quantities of builders supplies will be needed this year.

Rufus Darrow's Sons is one of the oldest and largest firms dealing in masons' building materials in New York City. The business was founded in 1858 by John and Rufus Darrow. After the death of both the founders the business was continued by Daniel, Benjamin and Rufus, their sons. Their offices and main yards are located foot of West 47th street and their branch yard at Dykman street and North River. These yards have 600 feet river frontage and switch tracks from the New York Central Lines running into yards. One of their warehouses has a storage capacity of 15,000 barrels of cement and the other stores fully 10,000 barrels of material. They have stable room for 51 horses and in busy times use 70 to 80 teams to haul materials to jobs. They were one of the first to introduce in New York trucks carrying 1,500 brick and today use a truck carrying 2,500 brick. It is the only firm in the city, it is said, that uses as large a truck for hauling brick. They handle Vulcanite, Atlas, Edison, Glens Falls and Lehigh Portland Cement; plaster of the Rockwall Plaster Company, and J. B. King & Co.; lime, both lump and hydrate of the Kelley Island Lime & Transport Company; common brick and masons' supplies of all kinds. They reported business for the past year decidedly unsatisfactory and prospects problematical. They deliver masons' supplies to all parts of Manhattan Island.

It is the consensus of opinion among local building material men that the demand for materials during the past year was of a spasmodic nature and business as a whole only fair.

According to advices received from Albany, a petition has been brought by certain brick concerns operating along the Hudson River asking

the State of New York to begin action against the Greater New York Brick Company for entering into an alleged combination to increase the price of brick. State Attorney General Carmody announced that he will begin proceeding under the so-called Donnelly anti-trust act, which prohibits a combination in restraint of trade. Before passing upon the merits of the complaint Mr. Carmody will ask the companies to file an answer to the complaint. Prior to the organization of the Greater New York Brick Company, which was formed in July, 1911, and which includes the majority of Hudson River brick companies, the price of Hudson River brick was quoted from $5 to $5.50 per thousand and at the close of the year brick was bringing $7 per thousand. The manufacturers of brick claimed that they were not making any money at the low prices they were receiving in the past two years and are now realizing a small profit at $7 per M.

According to a report prepared by James W. Spencer, statistician of the Building Bureau, New York's building operations in Manhattan for 1911 exceeded by a few hundred thousand dollars the totaled estimated value of new structures built in 1910. The record for that year was, in estimated value, $96,703,029, and included 838 buildings. For 1911 up to and including December 26, plans were filed in the Building Bureau of Manhattan for 831 structures at an estimated aggregate cost of $96,888,275. The banner year for Manhattan was 1909 when the plans filed were for new operations representing a cost slightly over $127,000,000. Two facts that exerted a decided influence upon the increase of the closing year over 1910 were, first, lower cost of materials, and second, the confidence shown by apartment house and mercantile building operators in future rentals, despite the mediocre renting season which prevailed during the greater part of the year in most of the localities where the greatest improvements were under way.

George C. Gleason, general sales manager, severed his connections with the Consolidated Rosendale Company on January 1, and has been succeeded by William C. Morton the popular treasurer of the Building Materials Exchange of New York City.

William C. Morton, of the Consolidated Rosendale Cement Company reviewing the building material market said: "The severe cold weather has put the quietus on all building operations and as is usual at this season there is very little doing in the building materials line. Dealers are overhauling their yards and taking stock. As to conditions in the spring it is rather difficult to make any predictions as yet."

ALBANY RETAILERS.

Albany, N. Y., Jan. 16.—Approximately ten acres of ground are occupied by John H. Jackson, Inc., of Albany, for manufacturing agricultural drain tile, hollow brick, and handling a complete line of builders' materials. The general offices are located at 73 Third avenue. The plant extends from Sloan to Hawk streets and runs through to Second avenue. Its warehouse is located at Fourth avenue and Dallins street, on the tracks of the Delaware & Hudson Railroad, and has a storage capacity of 3,000 barrels of cement. For hauling material it uses twelve teams and a 5-ton auto truck built by the Gramm Motor Truck Company, of Lima, Ohio. It is one of the oldest concerns in its line in Albany. It was founded by George Jackson in 1852. It handles Atlas, Lawrence and Bath Portland cements and is the local agent for the Vulcanite, Olsen and Knickerbocker Portland Cement Companies; it handles plasters of the United States Gypsum Company and the popular brand "Old Reliable" plaster made by the Kellam-Shaffer Company, of Schenectady, N. Y.; Sackett Plaster Board of the United States Gypsum Company; the product of the Farnum Cheshire Lime Company, of Cheshire, Mass., and the New England Lime Company, of Danbury, Conn.; hydrate of lime of the United States Gypsum Company; sewer pipe of the St. Marys Sewer Pipe Company, St. Marys, Pa., and the New York State Sewer Pipe Company, of Rochester, N. Y.; mortar colors of the William Connors Paint Manufacturing Company, of Troy, N. Y.; metal lath of the Bostwick Metal Lath Company, Niles, Ohio; Herringbone metal lath of the General Fireproofing Company, Youngstown, Ohio; pressed brick from the Alumina Shale Brick Company, Bradford, Pa., and Houghteling & Wittpen, New York City, and the Mechanicsville S. S. Brick Company, Mechanicsville, N. Y.; fire brick, fire clay and baker's oven tile of the Elk Fire Brick Company, St. Marys Pa.; terra cotta blocks of the National Fireproofing Company, New York City, and the Troy Fireproofing Company, of Troy, N. Y.; cellar and porch columns of the Mastberger Iron Company, Buffalo, N. Y.; flue lining of the New York State Sewer Pipe Company, Rochester, N. Y., and St. Marys Sewer Pipe Company, St. Marys, Pa.; fire clay, stovepipe, stovepipe thimbles and chimney tops; plaster of Paris from the Rock Plaster Manufacturing Company, New York City; white Portland cement of the Atlas and Sandusky Portland Cement Companies; waterproofing compounds, damp-proof paints, cement filler and cement floor paint of Toch Bros. and A. C. Horn Company, New York City; Keene's cement of the American Keene Cement Company, Philadelphia, Pa.; white sea sand; marble dust from the Higginson Manufacturing Company, Newburgh, N. Y.; reinforcing materials from the General Fireproofing Company, Youngstown, Ohio; wall ties from the Bostwick Metal Lath Company, Niles, Ohio; asbestos stucco, asbestos shingles and ready roofing from the H. W. Johns-Manville Company, New York City; salamanders and brick clamps of the Mastberger Iron Company, Buffalo, N. Y. E. W. Ladd, treasurer and manager of the company, reported business good this year, with a bright outlook.

One of the prominent builders' supplies yards in Albany is that of Howard N. Fuller, whose offices are located at the corner of Sheridan avenue and Chapel street. The business was founded by his father, William Fuller, in 1848, and since 1884 has been conducted by him, increasing the volume of its trade yearly. His warehouses are located on the tracks of the New York Central Lines and the Delaware & Hudson Railroad, which have a storage capacity of 5,000 barrels of cement. He is the local agent for the Ironclad Portland cement and also for the American Hard Wall Plaster Company,

OFFICE BUILDING OF HOWARD N. FULLER, ALBANY, N. Y.

Utica, N. Y., and the Niagara Gypsum Company, of Niagara Falls, N. Y. He handles La Farge, Dykerhoff and the best brands of Portland cements; West Stockbridge, Canaan, Snow White and Follett limes; prepared plaster, calcined and dental plasters, flue lining, plaster board, whiting, Rosendale, Keene's and painting cements, muralite and calcimines, pressed brick, sewer pipe of the American Sewer Pipe Company, Akron, Ohio; mortar colors, mixed paints—in fact, every material that the builder and the mason needs. He has established a reputation for handling the best goods and making prompt deliveries to jobs. He reports business good this year, but considers the outlook rather problematical.

Harvey A. Dwight's builders' supplies business located at 70 and 72 Church street, under the management of John Watson Dwight, was established in 1860 in Albany. At that time the material was stored and handled from three warehouses at the State Street Pier on the basin and the Hudson River, and the business was carried on there until a year ago, when the city bought that ground to build Recreation Park and drove it to its present quarters on Church street. There is not sufficient room in its quarters on Church street to handle the large volume of business it does annually, and Mr. Dwight is now casting around for a suitable locality in Albany with the necessary shipping facilities for permanent quarters. He handles the product of the Catskill, Alpha, Atlas and the Lawrence Portland Cement Companies; plasters of the Empire Gypsum Company, of Rochester, N. Y., and J. B. King & Co., of New York City; lime from the Dutchess County Lime Company, Dover Plains, N. Y.; Glens Falls finishing lime from Finch & Pruyn Company, Glens Falls, N. Y., and the New England Lime Company, of Danbury, Conn.; hydrate of lime from the Kelley Island Lime & Transport Company; is the local agent for the pressed brick of the Everhard Company, of Massillon, Ohio; sewer pipe, metal lath, fire brick, fire clay and everything needed by builders and mason contractors. The warehouse is located on the Delaware & Hudson River Railroad. Mr. Dwight has furnished Catskill Portland cement to Callanan & Prescott, to whom the contract was awarded for rebuilding the capitol at Albany. He reports an ever-increasing demand for cement from the farming districts and states that business this year has been good.

One of the old and successful builders' supplies firms in Albany is that of Peter McCabe, at 28 and 30 William street. It was founded by his father in 1881, who died two years ago. For years he was prominent in building circles and in politics. He built up a large business, which his son, the present owner, is handling with the same marked ability. He owns two teams, one single and a 5-ton auto-truck manufactured by the White Automobile Company, of Cleveland, Ohio, for hauling material to jobs. His warehouse has a storage capacity of 1,000 barrels of cement, but over half of the volume of trade he does is handled direct from the cars. He is the sole agent in Albany for the Helderberg Portland Cement Company. His sales of this Portland cement will run up to 35,000 barrels this year. He handles the plaster of the Niagara Gypsum Company, of Niagara Falls, N. Y.; all the lime products of the New England Lime Company, Danbury, Conn., and hydrate of the Kelley Island Lime & Transport Company, Cleveland Ohio; sewer pipe, wall coping and flue lining of the New York State Sewer Pipe Company, Rochester, N. Y.; fire brick, fire clay of the Menton Fire Brick Company, of Albany, N. Y.; the product of the Herringbone Metal Lath Company and the Northwestern Expanded Metal Lath Company, of Chicago, Ill.; mortar colors of the Clinton Metallic Paint Company, Clinton, N. Y.; light colored cement wash of Bangs & Gaynor, Fayetteville, N. Y.; Atlas white Portland cement; Keene's imported superfine cements from Howard Fleming, New York City, and Hercules Waterproofing Cement Company's product. Mr. McCabe reports business this fall brisk.

AMSTERDAM RETAILERS.

Amsterdam, N. Y., Jan. 15.—Fred Davey is one of the old residents of this city, well known in this and adjacent counties as a man who never starts anything without making a good finish. He has been as successful as he is popular, which is due both to his ability and pleasing personality. He started the coal and storage business twenty years ago and gradually took on masons' supplies, of which he now is handling large quantities and a complete line. He has lately taken large contracts for all kinds of concrete construction work, including paving streets. His office and warehouse are located at 25 Hamilton street. The warehouse has a storage capacity of 5,000 barrels of cement and stands beside a switch track from the New York Central Railroad which accommodates four freight cars. He owns two teams and hires as many more during the busy season for hauling material to jobs. He handles Atlas, Hilderberg, Iron Clad, Vulcanite, Knickerbocker, Lawrence and Bath Portland cements; plasters of the United States Gypsum Company, Niagara Gypsum Company and the Empire Gypsum Company, of Rochester, N. Y.; lime of the New England Company, of Danbury, Conn., and hydrate of the Kelley Island Lime & Transport Company; sewer pipe, flue lining, wall coping, fire brick, fire clay, etc., from the Elk River Fire Brick Company, St. Marys, Pa.; metal lath of the General Fireproofing Company, of Youngstown, Ohio; J. B. King & Co.'s plaster board; Clinton Metallic Paint Company's mortar colors; waterproof paints of the Edison Waterproof Paint Company, and pressed brick of Fisk & Co., New York City. He has just built a silo of concrete on a farm near Amsterdam, 15'x28' inside measurements, which has a solid concrete foundation, with five separate doors and gable roof, slated. Its capacity is 100 tons of ensilage. It has been demonstrated, he states, that ensilage in a silo so constructed will not freeze and can be kept at a uniform temperature regardless of weather conditions. He built it with a Van Guilder hollow wall machine, which he describes as one of the newest and best devices for concrete wall construction; the foundation and footing course laid absolutely level, the machine is placed on the wall, closed; the chambers of the machine then are filled with concrete of proper consistency, tamped well; the machine then is collapsed and moved some four feet in a circle, and the operation continued until the circle is com-

HOLLOW WALL CONCRETE SILO BUILT BY BAIRD BROTHERS & DAVEY OF AMSTERDAM, N. Y.

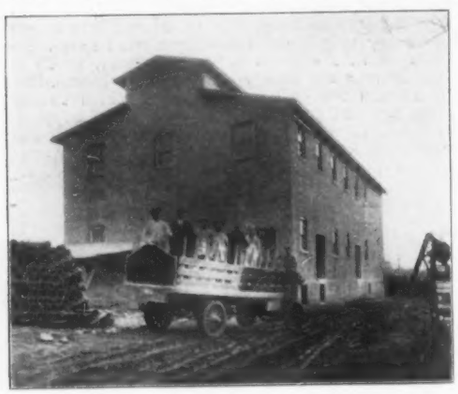
CONCRETE SILO AT AMSTERDAM, N. Y.

HOLLOW WALL CONCRETE SILO BUILT BY BAIRD BROTHERS & DAVEY.

pleted. When the circle is completed metal ties are laid across the opening and the machine raised to point of circle at the beginning and so on to the top of the silo. From three to four courses of nine inches each can be built in eight hours, depending upon atmospheric conditions. Each course is reinforced with a ⅜" metal rod. With the same machine he built a wall around the Montgomery County Historical Society's grounds, three miles from Amsterdam. The wall is 3'8" high, 15" wide over all, and coping 19" wide and 6" high, also made with this machine. This ground in years gone by was occupied by Fort Johnson, now the society's home. In 1742, Sir William Johnson lived here, and is still spoken of by the old-timers of having had the reputation in those days of having been a "good old scout."

SCHENECTADY RETAILERS.

Schenectady, N. Y., Jan. 15.—Eighteen years ago The Kellam-Shaffer Company secured five acres of ground in the Maxon Road in this city. The location of this property was ideal for the purposes



THE OLD RELIABLE HARD WALL PLASTER MILL OF THE KELLAM & SHAFFER COMPANY, SCHENECTADY, N. Y.

of establishing a builder's supplies yard and manufacturing wall plaster, also operating a stone mill on a large scale. The Erie Canal and the Delaware & Hudson Railroad runs alongside of it, furnishing both excellent shipping facilities by rail and water. It has built a warehouse with a storage capacity of 10,000 barrels of cement, plaster and lime; a mill which has a capacity of 75 tons of "Old Reliable" plaster per day. Both warehouse and mill stand beside the switch which accommodates twenty freight cars running into the yard from the Delaware & Hudson Railroad. The mill is up-to-date in its equipment and driven by six individual electric motors; it has a large Broughton mixer, made by W. D. Dunning of Syracuse; a Merriman (Scranton, Pa.) steam dryer and all other dryers and grinders used are of the latest improved types. This plaster mill is three stories in height, of concrete fireproof construction; the stone mill, also on the switch, is up-to-date in its equipment and driven by electric power. The company owns and uses for hauling material to jobs, seven teams and one 3-ton auto-truck and during busy seasons is forced to hire extra teams. It is the local agent for Vulcanite, Bath and Iron Clad Portland cement, also for Medusa Pure White cement and La Forge cement; handles Roxendale cement; its own wall plaster, the "Old Reliable"; hydrate of the Kelley Island Lime & Transport Co.; lumplime of the Duchess County Lime Co., Dover Plains, N. Y., and Rockport Lime Co., N. Y. City; Sackett Plaster Board, from the Garwood, N. Y., factory of the United States Gypsum Co.; J. B. King & Co.'s fibre plaster board; Keene's imported cement of Clifford L. Miller & Co., New York City; mortar colors of the Atlas Mining & Machine Co.; goat hair of the Illinois Leather Company, Chicago, Ill.; Aguebar waterproofing of Garoin, Nachod & Co., American Diamond Blast Co., N. Y. City and the Hercules Waterproofing Co., Buffalo, N. Y., waterproofing paint, the "Dry Wall" brand of Billings King Co., New York City; sewer pipe, flue lining etc., of the American Sewer Pipe Company, Akron, O.; drain tile of Johnn H. Jackson, Albany, N. Y.; fire brick of the Hayes Run Fire Brick Co., Ovois, Pa., and Geo. S. Good, Parton, Pa.; builders partition blocks it buys by the boat load of the National Fire Proofing Company, New York City, L. W. Camp & Co, Akron, O., and the Humphrey Brick & Tile Co., Brookville, Pa.; it buys in car lots corner heads, wall ties and other products of the Bostwick Steel Lath Co., Niles, O.; expanded metal corner heads and other products of the Berger Manufacturing Co. of Canton, O.; sheet steel lath of the Sykes Metal Lath & Roofing Co., Niles, O.; ribbed steel lath of the National Metal Lath Company, Plainsville, Conn.; iron columns for beam supports and salamanders of the Mostberger Iron Co., Buffalo, N. Y.; clean-out doors from the Electric City Foundry Co. of Schenectady, N. Y.; asbestos prepared stucco of the H. W. Johns-Manville Co. and the Asphalt Roofing Co., and the Ruberoid Ready Roofing made by the Standard Paint Co., all of New York City; steel staging of the Universal Steel Staging Co. of Boston, Mass.; hollow brick of John H. Jackson, Albany, N. Y.; Buffalo brick carriers of Mostberger Iron Co., Buffalo, N. Y.; and carry the largest line of pressed brick, some twenty different styles and eighty styles and shades in front brick, in the state as jobbers. E. C. Shaffer said this is the best year they have ever had. The officers of this company are: A. F. Shaffer, president and treasurer; E. C. Shaffer, vice president, and William F. McDonald, secretary.

The Crane, Veeder Co., wholesale and retail dealers in coal and feed, established its business in 1891. Its large coal yard is located at 131 Edison avenue. It also handles Atlas, Alpha, Iron Clad and Catskill Portland cement; plaster of the American

OFFICE OF THE KELLAM & SHAFFER COMPANY, SCHENECTADY, N. Y.

Hard Wall Plaster Co. of Utica; granulated lime of the New England Lime Co., Danbury, Conn.; common and pressed brick of the Bradford Pressed Brick Co., Bradford, Pa.; sewer pipe, flue lining, fire brick, fire clay of the New York State Sewer Pipe Co. of Rochester, N. Y.; mortar colors of the Clinton Metallic Paint Co., Clinton, N. Y.; marble dust of the Paragon Plaster Co. of Syracuse, N. Y., and sand and gravel. Its warehouse has a storage capacity of 1,000 barrels of cement. While they are

MASON SUPPLIES BUILDINGS OF THE KELLAM & SHAFFER COMPANY, SCHENECTADY, N. Y.

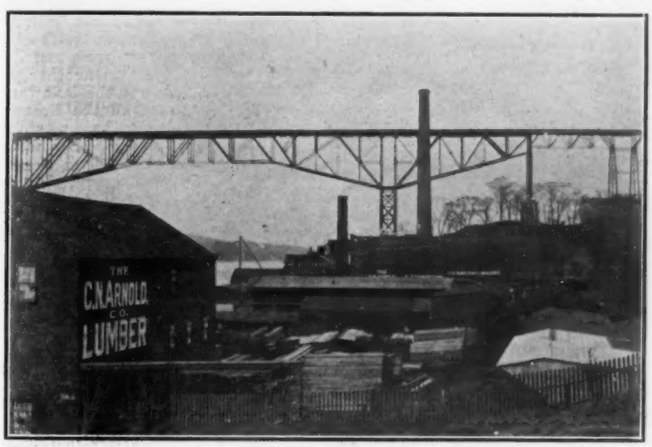
handling a quantity of mason's supplies, their principal business is coal and fuel.

As far back as 1848, Andrus McMillan, in Schenectady, founded the mason's supply and coal business, for years conducted and owned by L. W. Devenpeck at 306 Union street. For years he did the leading business in this line in this city, handling one year as high as 50,000 barrels of cement. Gradually, however, his coal trade overshadowed the mason's supplies until today he does not pay much attention to the latter, giving his entire energy practically to coal. The Schenectady County Coal Company, of which he is one of the incorporators, is now building a main pocket in this city on the tracks of the Delaware & Hudson Railroad, with a capacity of 8,000 tons of coal. Its four wholesale pockets distributed in various parts of Schenectady will be fed from the main pocket by auto-trucks. James Thompson of Syracuse, who last year was the candidate for State Treasurer on the Republican ticket, is the president of this company. It is the largest coal company in this part of the state. Mr. Deuenpeck operates three yards, one on the banks of the Erie Canal, one on the tracks of the Delaware & Hudson Railroad and one on the New York Central Lines, giving him most excellent shipping facilities both by water and rail. He handles Lehigh, Atlas and Helderberg Portland cements; plasters of the Paragon Plaster Co. of Syracuse and the Higginson Mfg. Co. of Newburgh, N. Y.; lime of the Farnam, Cheshire Lime Co. of Cheshire, Mass.; metal lath of the Bostwick Metal Lath Co., Niles, O., Expanded Metal Lath Co., Gary Iron & Steel Co., Pressed Concrete Steel Co. and Fuller Bros. & Co.; mortar colors of The William F. Connors Paint Co., Troy, N. Y., and the Pecora Mortar Stain Co., of Philadelphia. He reports business fair and better than last year.

POUGHKEEPSIE RETAILERS.

Poughkeepsie, N. Y., Jan. 15.—The C. N. Arnold Company deals in lumber and timber of every description and everything for builders. It is the oldest and largest firm in Poughkeepsie and this part of the state. It was established by David Arnold ninety years ago, in 1821, and the business has been handed down from father to son. It handles the timbers of Idaho and Portland, and cypress from Vancouver to Mexico. Its plant covers several acres of ground and is on the New York Central Lines and the Central & New England Railroad, at the foot of Mills street, and has several hundred feet of dock front on the Hudson River. Its shipping facilities by rail and water are unexcelled. It handles the Dragon brand of the Lawrence Portland Cement Company, of Philadelphia, Pa.; the plasters of J. B. King & Co. and the Rock Plaster Manufacturing Company, of New York City; lime of the Kelley Island Lime & Transport Company, Cleveland, Ohio, Finch, Pruyn & Co., Glens Falls, N. Y., New England Lime Company, Danbury, Conn.; sewer pipe, flue lining, etc., it buys largely of the New York State Sewer Pipe Company, of Rochester, N. Y.; fire brick, fire clay of the George S. Good Fire Brick Company, Paton, Pa.; mortar colors of the William Connors Paint Manufacturing Company, Troy, N. Y.; metal lath, common and pressed brick, white sea sand, etc. Business, it is reported, has been very good this year, and building operations active in Poughkeepsie. The officers of the company are Charles N. Arnold, president and treasurer; Katherine G. Arnold, vice-president; Frederick S. Arnold, vice-president; Samuel T. Robinson, secretary and manager.

RESIDENCE OF SAMUEL J. MOORE, POUGHKEEPSIE, N. Y., HOLLOW TILE AND STUCCO EXTERIOR.



THE ARNOLD COMPANY, POUGHKEEPSIE, N. Y.

C. M. Christian established the Poughkeepsie Engineering & Contracting Company in 1908. Its offices are located in the News-Press Building, 45 Market street, Poughkeepsie. It does a general contracting business in concrete construction work. It operates a large Champion crusher with a capacity of 150 tons a day, crushing iron slag, which is used in the company's building operations. It also uses three Ransom mixers, including one small continuous mixer manufactured by the Ransom Concrete Machinery Company, of Dunellen, N. J. This company has been doing much concrete construction work in Poughkeepsie the last three years. Among the work it completed this year are four reinforced business buildings, eight residences of hollow tile and stucco, a large candy factory building, finished late last spring. Building operations in Poughkeepsie, Mr. Christian reported, have greatly increased lately with each succeeding year. Over one thousand buildings, including residences, have been built here in the last three years, and over one hundred houses are now under construction, and an active demand for houses is still felt. "The town is waking up," he concluded. The Poughkeepsie Engineering & Contracting Company has all the business it can attend to.

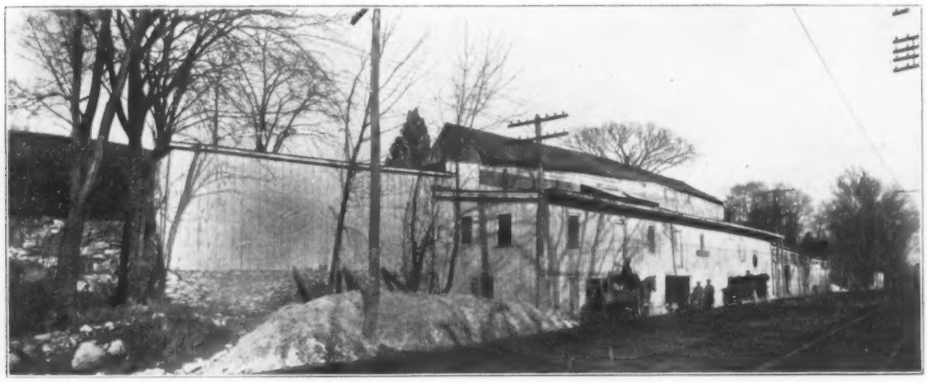
NEWBURGH RETAILERS.

Newburgh, N. Y., Jan. 15.—This city's oldest landmark is the store opened by the Brown Lime Company in 1835. It stands at 490 Broadway and in it is the office of John J. E. Harrison, who is one of the prominent dealers here in building supplies. He operates four lime kilns not far from this location which have a capacity of turning out 500 bushels of lump lime and has an is known as the Orange Mountain lime and has an extensive sale within a radius of 35 miles of Newburgh. He handles the product of the Olsen and the Edison Portland Cement Companies; plaster of the Higginson Manufacturing Company of this city; sewer pipe from the leading firms in Akron, O.; flue lining, wall coping, fire brick, fire clay of the Elk River Fire Brick Company, St. Mary, Pa.; metal lath, mortar colors of the General Fire Proofing Company, Youngstown, O.; sand, gravel, etc. Mr. Harrison said that business last spring was a little slow, but picked up in the fall and has no complaint to make of the average for the entire year.

Samuel A. Wilson started here twenty-five years ago as a contractor. In 1895 he developed into a manufacturer of plaster and wholesale and retail dealer in masons' building materials. His plaster mill has a capacity of 50 to 75 tons of plaster a day. He operates two mixers and uses the sand drying process in the manufacture of what is favorably known as Nelson's Standard Wall Plaster and Prepared Mortar. The sales of this plaster extend from Albany to the Atlantic coast. He keeps a number of men on the road covering the southern part of New York State and New Jersey. The mill is located on the tracks of the Erie Railroad, with a switch track running to the mill which accommodates three freight cars. He owns and operates a sand and gravel bank covering three to four acres adjoining the ground on which the mill stands. It is claimed that the supply of sand and gravel of this bank is practically inexhaustible. He handles Catskill Portland cement and all the Pennsylvania Portland cement brands; his own plaster; Wilson's Enamel Roof Paint for roofs, barns and fences; Wilson's Superior Stove Lining, which fits any stove or furnace; sewer pipe, fire

LIME OFFICE OF JNO. J. E. HARRISON, NEWBURGH, N. Y.

OFFICE AND RETAIL YARD OF SAMUEL A. WILSON, NEWBURGH, N. Y.



LIME KILNS OF JNO. J. E. HARRISON, NEWBURGH, N. Y., ESTABLISHED IN THE YEAR 1835.

brick and a complete and full line of mason's supplies. His building material yard is located at the corner of Clark and Washington streets. He

SAND PLANT AND MILL OF SAMUEL A. WILSON, NEWBURGH, N. Y.

reports business as having been very good this year and believes indications point to bright prospects in building lines in and around Newburgh.

HUDSON RETAILERS.

Hudson, N. Y., Jan. 15.—Away back in 1832 Hiram Macy came to Hudson and established himself here as a carpenter and builder, and after some years dealt in picture frames. Then he went north and bought lumber, traded that, and in course of time became a prominent lumber dealer. He died in the early '80's. This was the foundation of the large lumber and builders' supplies business of Charles W. Macy at 550 Union street. The storage capacity of the warehouse is easily 1,000 barrels of cement. A siding runs close to it from the New York Central Lines, the Boston & Albany and the Albany Southern Railroads. H. S. Rivenburgh is the general manager. He has been with Mr. Macy for twenty-six years and became the general manager eighteen years ago. He is one of the most energetic men in Hudson, holds the position of Commissioner of Public Works, zealously guards the interests of the city, and has built up the largest builders' supplies business in Hudson. Charles W. Macey first handled the natural Rosendale cement, and was the first in this part of the state to buy the imported English Portland cement that came to this country. He handles Atlas and Catskill Portland cements and is the local agent for the cement made by the Knickerbocker Portland Cement Company, of Hudson, N. Y.; plaster of J. B. King & Co., of New York City; lime of the New England Lime Company, Danbury, Conn.; Sackett Plaster Board of the United States Gypsum Company; plastering hair of the Illinois Leather Company, Chicago, Ill.; flue lining, chimney tops, of J. G. Crawford & Co., Newark, N. J.; sewer pipe of the American Sewer Pipe Company, Akron, Ohio, and John H. Jackson, Inc., of Albany, N. Y., with a complete line of material required by the mason and builder. "This is the best year," said Mr. Rivenburgh, "we have had in the past two decades; our volume of business went beyond that of last year. Business has been prosperous and increasing each succeeding year. Our sales of cement to the farmer are 50 per cent greater than those for 1910."

GLOVERSVILLE, RETAILERS.

Gloversville, N. Y., Jan. 18.—A. E. Brace is an old resident of this city and engaged in the general contracting business for the last twenty years, constructing public buildings, laying street pavement and concrete sidewalks. The A. E. Brace Construction Company was formed and incorporated September 5, 1910. The builders' supply business is separate from that of the company and is personally conducted by him. His warehouse for storing cement and plaster is located alongside the tracks of the Fonda, Johnstown & Gloversville Railroad. He handles Alpha cement; plaster of the American Wall Plaster Company, Utica, N. Y.; lime of the Farnum, Cheshire Lime Company, Farnum, Mass.; hydrate of the Kelley Island Lime & Transport Company; sewer pipe, blue lining, wall coping, fire brick and fire clay of the Buckeye Fire Clay Company, Uhrichsville, O.; mortar colors of the William F. Connors Paint Manufacturing Company, Troy, N. Y.; sand and gravel, common and pressed brick and a complete line of everything needed in builders' supplies. His yard and office are located at 37 Hamilton street. He has furnished the cement for paving eighth avenue, West Fulton and Forest streets this fall. The combined pavement of these streets is over a mile in length. He reported business rather quiet this year up to the fall season, since when it has picked up nicely.

Karg & Anibal started as general contractors in Gloversville in 1903 in concrete construction for foundations, sidewalks, public and private buildings. They manufacture concrete bricks and blocks, own a 50-acre gravel bed within the city limits which is reported to contain as fine gravel and sand as there is in the state, and operate a builders' supplies yard covering an acre of ground, where they carry a full line of building material. Their concrete brick and block plant is located near the city limits on the southwest, covering three acres of ground, and its output is estimated at 225,000 bricks and blocks annually. The yard and office are located at 86 and 88 Spring street, the warehouse having a storage capacity of 1,500 barrels of cement and plaster. They carry Knickerbocker and Alpha Portland cements and are local agents for the first named cement; plaster of the Egyptian Hard Wall Plaster Company, Chicago; lime of the New England Lime Company, Danbury, Conn.; Sackett Plaster Board of the United States Gypsum Company; asbestos plaster of Clapp & Co., New York City; sewer pipe, flue lining, fire brick, fire clay, etc. They have just finished putting in concrete floors, steps, roof, etc., in the Carbondale, Pa., postoffice, and also just finished the concrete work in and around the Amsterdam, N. Y., postoffice. William Karg and R. S. Anibal report they have not found business bad. They keep busy all winter manufacturing concrete blocks and making the most syrup and sugar, with a maple flavor. It is made by an evaporating process from pure granulated sugar and has a great sale in the state. They sold more than forty tons last winter. It has the same rich taste as maple sugar.

TROY RETAILERS.

Troy, N. Y., Jan. 15.—Rickerson & Co. is the only exclusive builders' supplies firm in Troy. It carries a complete line of everything that masons and contractors need. The business was established as a wholesale flour, feed and grain concern by Leroy Rickerson forty-two years ago. It gradually took on masons' supplies, until twelve years ago it dropped its dealings in flour, feed and grain entirely. Then O. H. Lyttle became manager and he has made things hum in building circles ever since. The firm handles Universal, Lehigh, Saylors', Nazareth, Hilderberg and Vulcanite Portland cements and is the local agent for the first four cements named; United States Gypsum Company's Ivory sanded plaster and Sackett's Plaster Board; lime from Finch, Pruyn & Co., Glens Falls, N. Y.; New England Lime Company, Danbury, Conn.; Charles Warner & Co., Wilmington, Del., and Berkely hydrate of lime; sewer pipe, flue lining, fire brick, fire clay, wall coping, etc., from the Ostrander Fire Brick Company, Troy, N. Y.; mortar color from the William F. Connor Paint Company, of Troy, N. Y.; metal lath from the Sykes Metal Lath & Roofing Company, Niles, O., and also asbestos shingles from the Johns-Manville Company, New York City; fire bars of the United States Gypsum Company; Best Bros. Keenes cement, Atlas White Portland cement and Blane's White Portland cement; corner beads from the Union Building Material Company, No. 1 Broadway, New York City. The company's warehouse is located on Green Island on the Delaware & Hudson Railroad and the New York Central Lines, and has a storage capacity of 6,000 barrels of cement. It owns three teams and contracts for the rest of the hauling of material to jobs. Its office is located at 355 River street. Manager Lyttle, who took hold of this business twelve years ago, said: "This has been a splendid year with us, we have doubled our business, and the outlook is bright for the future."

Max Grimm twenty-five years ago started in the coal and builders' supplies business in Troy, building up a trade which is accounted as one of the largest and uniformly successful among dealers in these lines in Troy. His warehouse has a storage capacity of 4,000 barrels of cement, lime and plaster. He owns and uses for hauling material to jobs three teams. His office is located at 155 River street. He handles Atlas and Hilderberg Portland cements; plaster of the Higginson Manufacturing Company, of Newburgh, N. Y.; lime of the Stockbridge Lime Company, Stockbridge, Mass.; Finch & Pruyn Company, of Glens Falls, N. Y.; sewer pipe manufactured in Akron, O.; flue lining, fire brick, fire clay, etc., from the Elk River Fire Brick Company, St. Marys, Pa.; mortar colors of the Atlas Manufacturing Company, New Jersey; Sackett's Plaster Board of the United States Gypsum Company; sea sand and a full line of builders' supplies. He reports business as good as it was the last four years and believes that there are bright prospects ahead. His principal business is handling coal.

Milo Smith opened his coal yard in Troy in 1868 and has been doing a large and successful business since that time. His River street yard and office are located at No. 543. He operates another yard on Green Island, which has access to the Delaware & Hudson, the New York Central and the Boston & Maine railroads. His warehouse has a storage capacity of 5,000 barrels of cement. He handles Atlas, Olsen, Alpha and Catskill Portland cements, plaster of the Paragon Plaster Company, Syracuse, N. Y., lime of the Keenan Lime Company, New York, and hydrate of the Kelley Island Lime & Transport Company. He reports business this year only fair.

KINGSTON RETAILERS.

Kingston, N. Y., Jan. 14.—Twenty-two years ago the builders' supply business of David Gill, Jr., was established by him in this city, the yard located at Rondout Harbor on the Hudson River, at 222 and 224 East Strand. A switch track from the Ulster & Delaware Railroad and all railroads entering Kingston runs into the yard, and it having a dockage front of 150 feet gives it shipping facilities of a splendid character both by rail and water. He handles cements of the Catskill, Olsen, Lawrence and Vulcanite Portland Cement Companies, and has the exclusive agency of the products of the Atlas Portland Cement Company for Kingston and vicinity, and also the agency for the Atlas and Medusa White Portland cements; Dyckerhoff's imported cement; plasters of J. B. King & Co., New York City, Niagara Gypsum Company, Niagara Falls, N. Y., the Higginson Manufacturing Company, of Newburgh, N. Y., and the Empire Gypsum Company, of Rochester, N. Y.; lime of the New England Lime Company, Danbury, Conn., and French & Pruyn Company, of Glens Falls, N. Y.; hydrate of lime of John J. E. Harrison, of Newburgh, N. Y.; Akron, Ohio, sewer pipe; fire brick and fire clay of the Ostrander Fire Brick Company, of Troy, N. Y.; mortar colors of the Clinton Metallic Paint Company, Clinton, N. Y.; plaster board of J. B. King & Company, New York City; metal lath, common and pressed brick, white sea sand, etc. Seth Gill, the manager of this business, stated that building operations in Ulster, Delaware, Green and Sullivan counties had been very brisk this year and they had supplied building material to many buildings erected in these counties. They had had fully double the volume of business of last year, and the future appeared to them very bright.

CLEVELAND RETAILERS.

Cleveland, Ohio, Jan. 15.—Conditions in all building lines in this city last year were eminently satisfactory. All the large builders' supplies firms did not only a large, but very successful business and have become emphatically optimistic to a man concerning prospects for this year. Huge building projects late last year assumed definite shape and form and active operations will be commenced on many of these improvements early in the spring. For example, there is the elevation of grade crossings by the Pennsylvania Railroad Company; the new high level bridge to cross the Cuyahoga river; big improvements at the public square, including the building of an interurban station for the electric car lines, and perhaps a large hotel; the subway proposition is assuming an active turn; the letting of the contract for the new city hall, with a number of other projects will make this year in building circles the most active Cleveland has seen for some years.

PLANT OF DAVID GILL, JR., KINGSTON, N. Y.

Last month the Cleveland Builders' Supply Company was practically rushed with business to complete buildings under construction. The business of the entire year of 1911 proved more than satisfactory to this company and it looks forward to an exceptionally large volume of trade for the coming twelve months. A number of large projects are to be definitely acted upon this month which will require great quantities of builders' supplies and create such active conditions in Cleveland as it has not seen for several years. This company received the contract for furnishing upwards of 25,000 barrels of cement for the twelve-story reinforced concrete building just started for the Leader Publishing Company on Superior avenue. The Cleveland Builders' Supply Company deals in every known commodity needed in construction of buildings, excepting wood. It operates nine warehouses and yards located in different parts of the city, convenient and central for delivering material to jobs, avoiding long hauls. In connection with its manufacture of sanded wall plaster it is also mixing an exterior cement plaster under the trade name of "Klingstone" which has opened up a new field for this company. It is used on the exterior of cement houses, commonly known as stucco construction. It has been found a very adaptable material in converting old buildings into new and very elaborate structures. This was recently shown in the Broadway Market House of wood construction and Newburgh's oldest landmark. It was transformed into one of the most artistic structures by the use of Klingstone exterior cement plaster. The plaster mill is located on the Cuyahoga river, where the sand is of the necessary materials in manufacturing prepared wall plaster is brought to its doors in sand suckers.

The Cuyahoga Builders' Supply Company started in business one year ago. W. A. Fay, its president, reported a very successful first year. It handles a complete line of building material and operates six warehouses and a plaster mill in which the "Forrester Plaster" is manufactured and sold by this company. The company is handling a new cement and construction tile. This tile is faced with Caen stone and is used for exterior work and also for breaking up purposes. It has become very popular and will materially decrease the cost of building. W. A. Fay is also secretary and treasurer of the Everling Tile Machine Company. A plant has just been finished in Cleveland and the machines are being turned out as fast as possible and leased. The demand for them has been so great that up to the present time every machine was leased the moment it was completed, and the company will not exhibit at the coming cement shows, as it will not have a tile machine to exhibit, being far behind in filling orders. The machine is said to be a marvel, having a capacity of turning out 10,000 tiles a day. The Cuyahoga Builders' Supply Company has the exclusive agency for this tile machine in Cuyahoga county.

The Cleveland Material Company in addition to its large and complete line of builders' and contractors' supplies has taken the agency of The Midland Terra Cotta Company, of Chicago, Ill., which manufactures a very high grade of terra cotta. Since taking this agency it has closed two very nice jobs in Cleveland which will be representative of what the Midland Terra Cotta Company can produce. It has also taken the exclusive agency for The Arlington Manufacturing Company, technical paint makers of Canton, Ohio. A floor coated with Arlington cement and concrete floor paint may be swept and kept clean without dusting up the cement and, further, this product absolutely prevents chair cracking, dusting or the disintegration of the concrete surface. The company's line of specialties in cement and waterproof coating is most complete. Last April this company took over the business of the Bowen Builders' Supply Company and went into the retail business. It covers the entire city with a complete line of builders' supplies. It is proud of the fact that it sells material just as promised and delivers it the day agreed upon. H. J. Collier, treasurer of this company, is one of the old Cleveland contractors, and well known in Chicago and Indianapolis. He did much of the concrete work here on the Pittsburgh & Erie railroad under the Carter Construction Company; also on the Winston, Salem & South Carolina railroad. Last year he did all the concrete work on the New England & Lehigh railroad and furnished the washed sand and crushed stone for the Cleveland Short Line. This work was let to the H. E. Culbertson Company, of Cleveland, in three sections—grading, tunnel work, bridges and abutments. W. P. Hurst, president and general manager, reported last year was the biggest the company has ever had in its career and believes that prospects for 1912 are brighter in building circles than Cleveland has had for many years. The officers of the company are: W. P. Hurst, president and general manager; L. H. Buch, vice-president, and H. J. Collier, treasurer and secretary.

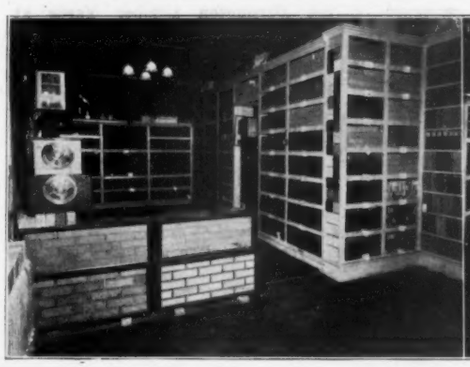
The Queisser-Bliss Company is one of Cleveland's large concerns which deal in bricks, terra cotta and builders' specialties. It reports having had a prety good business last year, which compared very favorably with the business of the year preceding and that the outlook is far better than last year. Among the prominent buildings completed in 1911 it furnished the terra cotta for the City Investment Company building, the Athletic Club and the Bailey building of this city. This company handles and has the agency of the Beaver Board of the Beaver Company, of Buffalo; the state agency for the waterproofing of the A. C. Horn Co., of New York; the agency for the tapestry brick of Fisk & Co., New York; oriental brick of Bonner-Marshall Company, of Chicago, Ill.; astrakhan brick of the Columbus Brick and Terra Cotta Company, Columbus, Ohio; the agency for the Northwestern Terra Cotta Company, of Chicago, Ill.; the Finestra steel windows manufactured by the Detroit Steel Products Company, and handled through its office, besides other many important builders' specialties. The officers of the company are: E. L. Queisser, president; C. A. Bliss, vice-president and treasurer; E. F. Hauserman, secretary.

A. Y. Gowan, of the Kelley Island Lime & Transport Company, which has its general offices in the Rockefeller building, reports business last year good with bright prospects, especially so as to Cleveland.

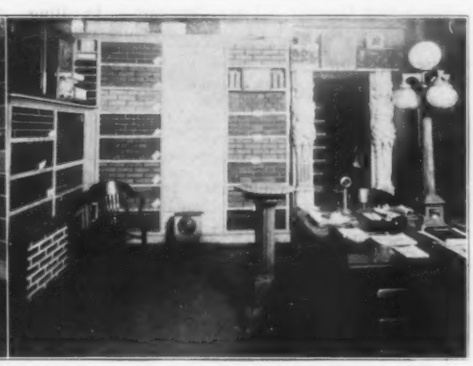
The Holran Stone Company has offices in the New England building on Euclid avenue. Its principal business is furnishing stone for fluxing purposes to furnaces. It furnishes practically all of the foundries and furnaces from Cleveland to Pittsburgh. It furnished all the limestone last year for street concrete work and bridges to the Nickel Plate railroad and a great deal of stone for road work. They shipped last year nearly 300,000 tons of crushed stone and reported business fair, but believe prospects this year are exceedingly bright.

W. C. Runyan, Jr., president of the Lake Erie Builders' Supply Company, said that they had a fine year and prospects looked more promising by far than did those twelve months ago. The company is one of the largest in Cleveland dealing in builders' supplies. It operates three yards—one at East Fortieth street and Superior avenue on the Pennsylvania road; one at Eighty-first and Franklin streets on the Nickel Plate, and one at Rocky river, also on the Nickel Plate. It expects to open another yard this spring at the east end, with switches running from the Nickel Plate.

The Stowe-Fuller Company is one of the largest firms in Cleveland handling a complete line of builders' supplies and the second largest manufacturers of fire brick in the country. It operates two yards, one at the corner of Perkins avenue and the Cleveland & Pittsburgh railroad; the other on the lower flats and the Big Four railroad. In the last named yard it operates a warehouse exclusively used for cement, with a storage capacity of 25,000 barrels of cement. The cement handled there is made by the Huron Portland Cement Company, of Alpena, Mich., by boat. This is the only builders' supplies firm in Cleveland that gets cement shipped by water. The company is distributors for this cement through northern Ohio. It also handles Alpha and Vulcanite Portland cement and La Farge non-staining cement. It carries the largest stock of fire brick in the country. It was the first firm in this city to receive cars of freight and get service from the elevated tracks of the Pennsylvania Railroad Company. C. H. Nock, of the Stowe-Fuller Company, reported last year's business very satisfactory and believes prospects for the year exceedingly bright.



ENTRANCE AND EXHIBIT ROOM OF THE QUEISSER-BLISS COMPANY, CLEVELAND, O.



MAIN EXHIBIT ROOM OF THE QUEISSER-BLISS COMPANY, CLEVELAND, O.

PITTSBURGH RETAILERS.

Pittsburgh, Pa., Jan. 16.—Cold weather for two weeks, together with the annual inventories and the holiday layoffs, has practically put a stop to all business in the retail yards. Retailers are finding that their stocks on hand are not large. They bought very carefully last year and as a result it would take only a small increase in business now to make necessary some heavy purchases. They do not look for any special business, of

course, before January 15, especially if the cold weather continues. With most of them last year showed a slight loss from 1910. The first part of the year and especially the midsummer season was dull. The last three months of 1911 were fairly good ones and did very much to relieve the strain. All dealers agree now that prospects for business this year are very much better than they were one year ago. So much public work has been authorized and provided for financially in Allegheny county that there will be large lettings all the year. It is also encouraging to note that architects and engineers report a very great increase in the number and importance of heavy construction jobs throughout the Pittsburgh district, which will necessitate the buying of builders' supplies on a large scale. Perhaps the brightest spot in the situation at present is the continued increase in activity in steel, coal and industrial circles. In these respects the Pittsburgh district has not been so well favored for four years—at this season—as just now. The steel plants are running fully 85 per cent and there is hardly a week goes by that a half dozen or more new plants or extensions are not announced in the territory within a radius of 150 miles of Pittsburgh.

The Manufacturers & Contractors Club at its December meeting was addressed by State Senator H. I. Riley, who spoke in defense of the state capitol grafters. The attendance was the largest since the club started to hold its luncheons in the Lewis block. At one of the noon meetings of the club in December Louis Brandt of the Nicila Building Company gave a very interesting talk on the relations of the general contractor to the sub-contractor. The annual banquet of the club will be held at the Fort Pitt Hotel Tuesday evening, January 23. The committee for this banquet is composed of H. H. Kunde, R. O. Bells, S. A. McRoberts, Louis Brandt and Truman S. Morgan. The speakers will be H. S. Murphy, H. L. Kreusler and Wilbur Shenk.

The annual convention of the Retail Lumber Dealers' Association of Western Pennsylvania will be held at the Fort Pitt Hotel January 25 and 26. It is expected that more than 100 retailers will be present. Secretary A. C. Rightor is hard at work on the preliminary arrangements for the program, etc. The retailers' entertainment committee is composed of A. G. Breitwieser and Edwin M. Hill. The Pittsburgh Wholesale Lumber Dealers' Association will entertain the retailers at the Pittsburgh Athletic Association clubhouse on Schenley Farms the evening of January 25 with a right royal banquet and vaudeville entertainment. The wholesalers' committee for this event is W. W. Wilson, Jr., Alexander Willson, Louis Germain, Jr., and A. D. Knapp.

Among the important city projects which are encouraging retailers greatly in their predictions that this year will show a big increase in sales over 1911 may be mentioned the following: A $50,000 sewage disposal plant which councils propose to take up as soon as it has finished the city abattoir proposition; the building of flood walls along the Allegheny river and Pine creek at Etna, a north side suburb; the widening of Sixteenth street from Penn avenue to the Allegheny river, which is in line with the big improvements to be made by the Pennsylvania railroad in its produce district; the building of the south side tunnel by the county commissioners, which is certain to be started within the next three months, as only the matter of location remains to be closed up; the building of the Pittsburgh subway, which councils is seriously considering and it is likely to be done by the Pittsburg Subway Company; the lowering of the hump to cost $2,225,000 for which ordinance, including bond ordinance, have already been passed; the construction of an intercepting sewer at the Monongahela river wharf; the abolishing of all grade crossings in the Wilkinsburg and Brushton districts along the Pennsylvania railroad; repairing the Highland reservoir by draining the basin and substituting a new bottom and replacing the other as far as the tow wall, seven feet above the water; building of concrete culvert and flood walls by the Pennsylvania railroad on the Allegheny Valley railroad at Sharpsburg, a north side suburb; building of a new bridge over the Monongahela river at Glassport, Pa., and parking and improving of the city wharf and building sea walls along both the Monongahela and Allegheny rivers, extending back from the point at a cost of $650,000.

Miller & Coulson have an unusual and very encouraging report to make for 1911. They did less business in 1910, but made more money. This was for the reason that a larger percentage of their sales was of their own manufacturing product and that owing to big improvements in their plants they were able to turn out its product at a lower fixed cost. They are now sinking a shaft over sixty feet deep at Salineville, Ohio, to reach a very fine vein of clay for use in the manufacture of building blocks, etc.

J. M. Porter had one of the best years in his history in 1911. He was extremely fortunate in securing some large sales of paving brick for country roads in Washington county, and probably did as much of this business as any other dealer in Pittsburgh.

The Cook & Parsons Lumber Company, which is one of the best known retail concerns in the city and has a big yard on Hazelwood avenue is about to open another yard on the south side of the Monongahela river.

LOUISVILLE RETAILERS.

Louisville, Ky., Jan. 18.—What with a $6,500,000 building year just closed, one of similarly impressive proportions in prospect, and fairly satisfactory weather conditions ruling for the past month, Louisville building supply men are in very good shape. With the exception of the past week or ten days, the month has been very satisfactory and productive of an amount of work which is something above the mid-winter average. Just at present the supply men are resting on their oars during a period of exceptionally cold weather, but inasmuch as this undesirable feature will disappear shortly there can be no serious criticism of the manner in which the new year is opening.

The amount of building contracted for during December, 1911, according to the records of the city building inspector's office, aggregated $260,000, a fitting total to close the bumper building year in the history of the Gateway City. January, a naturally quiet building month, has started off in a fashion which augurs a standing above that of the first month in 1911, and consequently the building trades have nothing, past, present or prospective, to cause strong complaint.

"It is a trifle early for predictions concerning the present year as a whole, but, inasmuch as our business was fully 25 per cent better in 1911 than in 1910, and 1912 does not show any signs of falling noticeably below its predecessor, I do not see that there is a cloud upon the commercial horizon," said L. M. Rice, Jr., of the Central Paint & Roofing Company. The Central company operates in the wholesale supply line through Kentucky and Southern Indiana, as well as locally in a retail way, and Mr. Rice has just returned from his first trip of the year through out-of-town territory, finding conditions favorable for fine business in spring with his clientele.

The National Roofing & Supply Company, according to Edward Streicher, is experiencing a period of slackened business at present, but, in view of the satisfactory fall season and fine prospects for spring, has no complaint to register against the necessity of resting on its oars.

Samuel F. Troxell, of Samuel F. Troxell & Co., has been one of the busiest building supply men in this territory during the past month. His activity is now slackened, but there are sufficient contracts signed and deposited with the company to insure rapid stimulation as soon as the weather will permit.

John S. Culley, of the Culley Cement Block Company, reported that the movement of Kosmos Portland Cement in a retail way from his establishment had been fully 25 per cent better during the past month than during previous mid-winter periods.

The Louisville Roofing & Supply Company has just completed covering the Majestic Theater, Louisville's newest and largest moving picture theater, with Bur Rock roofing, a specialty line of the West Main street supply men. The company has also had a sufficient amount of steam and boiler-pipe covering business to keep it busy during the off-season occasioned by the cold weather.

The Union Cement & Lime Company is handling a satisfactory amount of business while embarking into 1912, having experienced an unusually satisfactory run the previous year. The outlook for the Union company's operations as soon as spring opens is very flattering.

Thomas Dolan, of the Union Cement & Lime Company, is now being hailed as Councilman by his friends and associates in the building trades. The title is genuine, for Mr. Dolan was elected a member of the Board of Councilmen from the Twelfth Ward a short time ago, to succeed Ben J. Sand, who resigned after long and efficient connection with the municipal body.

The J. L. Strassel Paint & Roofing Company, one of the best known building supply concerns in Louisville, has removed to commodious new quarters at 445 South Third street, where it is operating upon enlarged lines in the painting, composition roofing and asphalt paving trades. A feature of the new Strassel establishment is "The Strassel Studio," a department in which the prospective paint customer is shown various kinds of house paints and enamels, with suitable designs drawn by a staff of experienced decorators for any specific purpose.

The T. W. Spinks Company, of Covington, Ky., filed articles of incorporation in that city last week for the purpose of engaging in a general building supply business. The new company is capitalized at $15,000, with the following incorporators: T. W. Spink and L. O. Green, of Covington, and W. W. Coney, of Cincinnati, O.

WEST COAST RETAILERS.

San Francisco, Jan. 12.—The year just closed has been an exceptional one in some ways and particularly in the lateness of the season. As a rule the building material business drops off materially by the first of December, but this season the active movement continued almost up to Christmas, continued fair weather making it possible to rush through a lot of work which would otherwise have been delayed until spring. During the holiday season things have naturally been very quiet, and while many contracts are coming out now in all the Coast cities, the actual movement of materials will be somewhat curtailed for the next month or two. Dealers, however, feel confident that 1912 will be a big year, and are laying their plans for a material expansion of business in the spring.

That the past year, as a whole, has been a good one is indicated by the building records in the leading cities, most of which show some advance over 1910. Retailers in the smaller towns have fared even better, especially in the interior valleys of California, which have been growing with unusual rapidity. Manufacturers and dealers who handle material on a large scale, however, are not entirely satisfied, as expected contracts on a good many large construction projects have failed to materialize. Their business has been fully up to that of 1910, but in some lines production has run ahead of the demand, resulting in close competition.

MEMPHIS RETAILERS.

Memphis, Tenn., January 13.—Trade in cement has been very quiet and unsatisfactory the last few weeks. The Fischer Lime & Cement Co. say that December was as quiet as any period in a long time. There has been much talk of an effort to raise prices this month, but its success is problematical. A few concrete warehouses are in prospect, though, this year, and supply dealers as a rule are trying to cheer up.

The Penn Engineering Company, Reading, Pa., was incorporated under Delaware State laws December 19, capitalized at $50,000.

The Ozone Engineering Company, Philadelphia, was chartered under Pennsylvania State laws December 20. Capital $5,000.

More yards will be added to the string operated in central Illinois by the O. H. Paddock Lumber Company of Pana in 1912. This fact was brought out at the annual meeting at Pana when officers were elected as follows: President, R. T. Paddock; vice-president, C. O. Paddock; secretary-treasurer, J. W. Paddock. The following were the ones chosen as directors: E. S. Combs, Findlay; F. Butts, Springfield; C. O. Paddock, Penwell, Pana; C. P. Tomilson, Nokomis; R. T. Paddock, Pana.

Eugene C. Gibbs resigned his position as general manager of the Darlington Lumber Yards at Arrowsmith, Ill., to become traveling salesman for the Smith-DePlain-Crumb Lumber Company of Rockford.

T. L. Weideman, manager of the Fred A. Smith Lumber Company, of Tuscola, Ill., suffered an accident January 4 which threatened to result in the loss of his left arm. Mr. Weideman was repairing a sand bin and had laid a hatchet on a railroad track. Just as he reached for the hatchet a train switching in the yards bumped into a coal car and before he could remove his arm one wheel of the car had passed over it between the wrist and the elbow.

The Monopolite Company, of Manhattan, has been incorporated to manufacture concrete and composition flooring, concrete construction, etc. Capital stock $25,000. The incorporators are: J. McLaren, F. B. Knowlton and W. Metkiff all of New York City.

Lime

The National Lime Manufacturers' Association

Meets Semi-Annually.

OFFICERS.

William E. Carson, Riverton, Va. ..... President
King McLanahan, Hollidaysburg, Pa. ..... 1st Vice-President
H. A. Buffum, Rockland, Me. ..... 2nd Vice-President
Geo. E. Nicholson, Manistique, Mich. ..... 3rd Vice-President
F. K. Irvine, Chicago ..... Secretary
C. W. S. Cobb, St. Louis, Mo. ..... Treasurer
Wm. E. Carson, Chas. Warner, Walter Sheldon, ... Executive Committee

LIME TESTS

Technologic Research Being Made For the Benefit of the Manufacturer, the Dealer and the Consumer of this Product.

The discussion of the various uses of lime in this department each month has proved profitable to dealers, especially that large class who are constantly seeking new selling points for lime. The subject this month is a technologic discussion of lime as suggested in a bulletin by Ernest F. Burchard, of the U. S. Geological Survey.

In June, 1909, the survey in co-operation with the National Lime Manufacturers' Association, began a study of lime. Both field and office work were undertaken. In the field the conditions prevailing as to quarrying, crushing, burning and hydrating lime were collected from a wide territory embracing nearly all the states east of the Missouri river, and from quarries of various types of stone, grading from high calcium to high magnesian lime.

The quality of lime has become of such importance to the dealer and consumer that it is necessary to devise specifications which will serve as a basis for mutual understanding between the dealer and consumer and the manufacturer. Such specifications involve a thorough study of the properties of lime, how these properties must vary to meet the demands of different consumers, what tests must be made to indicate to what degree any lime stone or any lime possesses these properties and how to make the tests. For building limes the factors of most importance are sand carrying capacity, crushing strength and tensile strength; for plastering limes these factors are spreading quality, time of setting, color, hardness and constancy of volume. A preliminary statement of tentative tests has been made as follows:

To all users of lime the content of carbon dioxide is important as indicating to what extent the lime has air-slaked or spoiled. The rate of hydration is also important as a means of determining whether or not the lime has been properly burned.

For chemical or agricultural uses a complete chemical analysis, or at least the determination of calcium oxide, becomes necessary.

Building lime should be tested for crushing strength, tensile strength and sand-carrying capacity.

For plastering lime the time of set, plasticity, color, hardness and constancy of volume are important.

Since the chemical analysis of lime is of more interest to the chemist than to the technical man, mere references will be made to some new, quick methods.

The carbon dioxide can be determined by means of an alkalimeter, the rate of hydration by means of a calorimeter. The color may be measured by direct comparison with a series of standards. These standards consist of mixtures of chemically pure calcium carbonate and lead peroxide in various proportions, giving all shades from white to brown. By the use of a viscosimeter, the viscosities of lime paste with different quantities of water can be determined and a correlation of these should give a comparative indication of the spreading quality. It has been found necessary, in determining viscosities, to have some standard means of preparation of the sample. For this purpose a uniform temperature slaking apparatus has been devised. The Clark viscosimeter is being used for thin pastes; a plunger viscosimeter is also in use. For all other tests a standard lime paste must be used.

A standard lime paste may be prepared as follows: Determine the viscosity of a paste which has the proper consistency for practical work. Call this the standard viscosity. Then, from the viscosities of pastes made with different quantities of water, find by interpolation how much water is required to give a paste of the standard viscosity with the particular lime in question. This quantity of water is to be used in mixing pastes for the succeeding tests, and the paste so produced shall be known as the "standard lime paste." By using this standard the consistencies of the pastes used will be identical, and therefore the results of the tests will be more nearly comparable.

For testing crushing strength and tensile strength use a mortar consisting of standard lime paste and sand, the sand being in the ratio of 3 : 1 by weight to the dry lime. The molds for crushing specimens are to be cubes, 2 inches on a side; for tensile specimens, the customary briquets have a cross section of one square inch at the center. All specimens are to be stored in air and broken when three months old.

To test sand-carrying capacity, make up specimens as for crushing strength, except that the proportion of sand is to vary from 0 to 5 times the weight of the lime. Store and break as for crushing strength.

Some of these specimens containing no sand are to be measured when three months old, in order to determine the constancy of volume.

To determine the time of set, use the standard lime paste under a Vicat needle and follow the official specifications adopted for testing cement. That is, the initial set is said to have occurred when the needle penetrates to a point 5 millimeters from the bottom; the final set when there is no noticeable penetration.

Hardness is to be determined by exposing the standard lime paste, one week old, to the action of a sand blast and noting the rate at which it is worn off.

The tests outlined above are the ones it is hoped may be used in the original tentative draft of specifications. In order to arrive at these methods of testing many experiments were carried out.

In making tests along the line indicated it was found that samples of both quick and hydrated lime shipped to the laboratory in practically air tight packages kept very well.

Interest everywhere is centered on the coming meeting of the National Lime Manufacturers at the Hotel Astor in New York.

The Athens Lime & Macadam Company has been incorporated at Athens, Ga., with capital stock of $10,000. The incorporators are: A. W. Prather, J. B. McConkey, D. S. Myers and others.

The warehouse of the Ozark White Lime Company, located two miles south of Grayette, Ark., was damaged by fire recently with loss of $3,000.

The Decarbonated Lime & Stone Company, of Waynesboro, Pa., has elected the following officers for the coming year: T. H. West, president; John H. Neal, vice-president; Alf. N. Russell, secretary and treasurer.

The Palmer lime plant, of West York, Pa., has been greatly increased in capacity, and a number of improvements have been made.

The Roanoke Lime and Stone Company, Roanoke, Va., has been incorporated, with $50,000 capital stock.

The Charles W. Priddy Company, of Norfolk, Va., are preparing to erect a large lime factory and warehouse at Money Point, Va.

AGRICULTURAL LIME.

Some Original Ideas About the Proper Use of the Material to Secure Best Results.

John S. Stitt, of Blairsville, Pa., contributes the following very interesting article on agricultural lime, based on experiments and observations he has made:

Judging from the way some manufacturers have been going after the agricultural lime trade one would think it was a passing fad, and that they wanted to get out all there was in it while the fad lasted. The practice of liming soils is here to stay, and just as sure as it is necessary to lime a field once, it will be necessary to lime it again at some future time if the fertility is to be kept up. It has been demonstrated in the last few years that most all soils in our eastern states have become more or less exhausted of lime and humus. All cultivated soils have a natural tendency in that direction, as lime is very soluble and is used up by cropping and carried away in the drainage water. Where the value of lime is understood the demand for it will be continuous. This being the case, is it good policy to cut prices on good material or put off a lot of poor truck on the farmer at high prices?

A noticeable feature of the agricultural lime business is the fact that some dealers and manufacturers think it is necessary to cry down commercial fertilizers. For a permanent business this is folly. Lime and humus are the foundation of all fertile soils. There is absolutely nothing that will take the place of lime. The various mineral plant foods, and even manure, may be applied, and if lime is lacking best results cannot be expected until lime is supplied. It will be readily seen that lime can well afford to allow credit wherever it is due in regard to the other so-called fertilizers or plant foods. Circulars of some manufacturers tell farmers that lime is all that is necessary and that it is a waste of money to buy the higher priced fertilizers. In the light of present day knowledge of lime this is poor trading, even from the lime manufacturer's point of view. An application of lime will release some of the unavailable plant food and there will be an increase in the crop, which would make it appear that lime was the whole thing, and many are misled, but this kind of farming could not go on continuously without bad results. Good farming demands the proper use of manure or mineral plant foods in connection with lime to insure permanent results. The relation of lime to manure and so-called fertilizers is very much like that of capital to labor; it requires capital to organize and get the best results from labor, and it requires lime to get the proper results from manures and fertilizers.

The action of lime on the humus or vegetable matter in the soil seems to be either very much misunderstood or some writers have deliberately set about to mislead users of lime. The claim is made that burned or caustic lime "burns up the humus"—destroys it. Burned lime *does not* have a caustic action in the soil. It simply makes conditions favorable for bacteria or micro organisms to thrive. They, in turn, convert the vegetable matter into fertility and crops use it up. That is where the humus goes. Instead of howling about the humus being used up the proper thing to do is to supply more vegetable matter and more lime to be converted into fertility to grow larger crops. Lime acts on the soil in a number of different ways, but this is the principal reason for using it. Some years ago in sections of Pennsylvania, where farmers burned their own lime, it was the custom to apply burned lime in very large quantities, as much as 8 to 12 tons or 300 to 400 bushels per acre. The result of these overdoses was that for a year or two very poor crops were grown, but after the soil recovered from the shock crops were good, and now, after upwards of 30 years, the good effects of this liming can still be seen. In these cases the soil received a shock, was made too alkaline, which apparently was as bad as not enough lime. Then, as soon as drainage or some other agency relieved it of the excess of lime it began to grow good crops, which proves that the humus could not have been "burned up" or destroyed. Had the humus been destroyed these soils would have remained unproductive until more humus was supplied, and there doesn't seem to have been any special effort made in that direction.

The relation that lime bears to soil fertility is really much more simple than some authorities would have us believe. Much of the information handed out to farmers, even by experiment stations, is very indefinite, and often confusing. There are millions of acres of land in the eastern states not producing what they should because lime and humus is lacking. Almost all of these lands can be made highly productive by systematic handling, but the available information on the subject is so complicated that many hesitate about undertaking the improvement. The information should be simple, but as complete as the specifications for building a house. Then any one wanting to improve run down soils would know just what he had to contend with and could figure pretty close to the cost. And it seems to be up to the lime or fertilizer manufacturers to get and give out this information. It could be done at no great cost, by taking the poorest land obtainable and then build a fertile soil out of it in the most economical manner, keeping track of costs, etc. The first thing would be to lay the foundation, which is drainage, lime and humus. Then supply such other materials as may be found necessary. There is no question as to the results of this kind of treatment, and if we could point out fields made fertile from practically worthless land and give details as to the most economical way of supplying humus, lime, etc., and give reasonably accurate costs for doing it, it would be a big step toward permanent improvement. With information of this kind it is possible that capital would be attracted into the field of improving poor soils and it will be readily seen what that would mean to agriculture and every one concerned. But it looks as if the interested parties would have to do the demonstrating. This seems to be a field for investigation.

When the whole thing is sifted down it will be found that lime and humus, or rather the lack of lime and humus, is responsible for about nine-tenths of the run down soil troubles.

NEW YORK LIME NEWS.

New York, Jan. 15.—"The lime market was quiet during the past month," reported F. F. Comstock, president of the Comstock Lime and Cement Company, "and building operations are at a standstill and manufacturers are now taking inventories of their stock, overhauling their factories and preparing for the business campaign for the spring season. The lime trade experienced a fairly good year with the profit a little narrower but business as regards volume on a par with that of 1910. Collections were harder to make and business came along spasmodically. We look for an improvement in conditions during 1912, but it is rather premature at present to make any predictions. As to the outlook, however, during the early part of March we will be able to get a line on the situation. Some dealers are of the opinion that the presidential year will depress business somewhat but to my mind it will not retard business to the same extent as some of the past presidential years."

WEST COAST LIME NEWS.

San Francisco, Cal., Jan. 10.—The lime business in the district around San Francisco continues in decidedly good condition. Prices have been well maintained for several months past, and all the manufacturers whose brands have a recognized position in the market are keeping busy, some of them finding difficulty in keeping up with orders.

The Henry Cowell Lime & Cement Company reports about all the lime business it can readily handle. This company is now operating a number of large lime plants in California, including one at the cement plant in Contra Costa county, two in the Santa Cruz district, and one at Cotharin, east of Sacramento, the output of the latter plant being sold in bulk only. This company also has a large plant near Tacoma, Wash.

The Sheboygan Lime Works, of Sheboygan, Wis., has moved into its new warehouse at New York avenue and South Water street. The new building, which is one of the three warehouses maintained by the company, offers 5,400 square feet of floor space. The company will erect a concrete office building in the spring.

THE NATIONAL LIME MEETING

President Carson of the Association Issues Last Call and Tells of an Interesting List of Papers to Be Read.

The following manifesto has been issued by President Carson, of the National Lime Manufacturers' Association, calling attention to the approaching meeting of that organization and giving in detail the program of the meeting:

"To the Lime Manufacturers of the United States—Greeting: The following program, mapped out for the annual meeting of the National Lime Manufacturers' Association is, in itself, a sufficient guarantee of the progressiveness of this association, and the earnestness with which it is pushing its work.

"The only plan by which the lime industry can reach a position among the greater industries is by lifting every manufacturing plant to a higher level. The sporadic development of an industry puts on the individual an unfair amount of effort, and finally fails of attainment, because, with the passing of the individual, the development lapses.

"The iron industry has made more millionaires than any other type of human effort, and its greatest efficiency was reached when the manufacturers engaged in that industry were in closest touch and freely exchanged ideas. I do not mean the close contact brought about by price agreements, but the harmony produced by talking shop. The only opportunity afforded the lime manufacturers of the United States to get together and talk over their plant problems and business difficulties is at the annual meeting of the National Lime Manufacturers' Association, and at these meetings, more information of real value is passed around than can be found in any technical library touching on the subject of lime and limestone products. Ask any person who has attended the annual meetings, if they were repaid for the time and expense incurred, and you will find you have touched the enthusiastic bone in their body, they may be pessimistic about everything else, but this one subject will bring them from sub-normal to fever heat.

"One of the interesting features about the annual meetings is the freeness with which manufacturers discuss everything with one another. Lime is a bulky article, and is therefore bounded by the zone of its freights, so that one knows if he opens up to a manufacturer not in his district the ideas he exchanges cannot militate against him, as the other lime manufacturer is not a competitor.

"Remember, that unless you are a member of the Association you cannot attend the annual meeting, also remember, you can become a member of this Association by payment of $25.00 to Col. C. W. S. Cobb, treasurer, Syndicate Trust building, St. Louis, Mo., and if you are unable to attend the annual meeting, the minutes will be sent to you, covering all the papers offered, but the great value derived is from the discussions that follow the papers. A Missouri manufacturer in a recent letter, stated that in the discussion of fire brick linings for lime kilns, he caught an idea from a brother manufacturer that has brought his repairs from a sixty day proposition to a fifteen months one. This is but one example of the value of the National Lime Manufacturers' Association, to those connected with the industry. If space permitted, I could reproduce the letters of some fifteen other manufacturers along the same line.

"The reason I urge your joining the association is, that unless you are a member, you cannot get the good information we are disseminating, and you are therefore not up with the procession, and because you may have some ideas that would benefit the business generally, although we guarantee that for every good idea you give, you will get one hundred in turn, and because the development of your plant means improvement to the industry.

"Let your impulse when you have finished reading the following program have its way, and you will become a member of the livest and most progressive industrial association in the United States.

PROGRAM OF TENTH ANNUAL MEETING OF THE NATIONAL LIME MANUFACTURERS' ASSOCIATION, FEBRUARY 1 AND 2, 1912, NEW ASTOR HOTEL, TIMES SQUARE, NEW YORK, N. Y.

Sessions February 1, 1912—Morning session, 9:30 a. m. till 1:00 p. m.; afternoon session, 2:00 p. m. till 6:00 p. m.; evening session; 7:30 p. m. till 9:30 p. m.

February 2, 1912—Morning session, 9:30 a. m. till 1:00 p. m.; afternoon session, 2:00 p. m. till 6:00 p. m.; evening session, 7:30 p. m. till 9:30 p. m.

ORDER OF BUSINESS.

1. Reading the minutes of the previous meeting and their approval.
2. Election of officers.
3. Reports of standing committees.
4. Reports of select committees.
5. Unfinished business.
6. New business.

Papers to be Read.

"The Use of the Rotary Kiln in the manufacture of Lime."—By J. G. Jones, Carthage, N. Y. (president of the New York Lime Co., Natural Bridge, N. Y., and patentee of lime kiln rotary kilns).

"Gas Producers and Gas Lime Kilns, Particularly for Natural Draft and Natural Pressure."—By Ernest Schmatolla, Washington, D. C. (chemical engineer and patent expert, specializing in gas producer operated lime kilns).

"Suggested Methods for Improving Kiln Economics."—By J. E. Forgy, Wilmington, Del. (expert on the manufacture of lime).

"Heat Efficiency of Lime Kilns."—By Warren E. Emley, Pittsburgh, Pa. (chemical engineer and investigator of lime for the U. S. under the Bureau of Standards).

"A Cost and Time Study of Big Blast Hole Drilling."—By R. R. Sanderson, Orrville, O. (expert for the Cyclone Drill Co.).

"Well Drill Hole Blasting."—By S. R. Russell, Wilmington, Del. (powder and dynamite expert for the E. I. du Pont de Nemours Powder Co.).

"Review of the Year's Work in the Development of Alca Limes."—By Henry S. Spackman, Philadelphia, Pa. (president of the Aluminate Patents Co. and inventor of Alca). Illustrated by lantern slides.

"Practical Use of Alca for Outside and Inside Plastering."—By C. Pierce, of Wilmington, Del. (expert in the use of Alca plasters).

"The Modern Manufacturers of Hydrated Lime."—By Richard K. Meade, Baltimore, Md. (chief engineer for the Tidewater Portland Cement Co.). Illustrated by lantern slides.

"Requirements in Fire Brick for Lime Kiln Arches and Linings."—By W. L. Hamilton, Mt. Savage, Md. (superintendent Union Mining Co. and expert in manufacturing lime kiln fire brick).

"A Cure for Panics, and Why They Occur."—By William E. Carson, Riverton, Va. (president of the Virginia branch of the National Citizens League for the promotion of a sound banking system).

"Is the Recommendation That Only Ground Limestone Should Be Used for Agricultural Purposes a Sound and Rational One?"—By H. J. Wheeler, Kingston, R. I. (professor of agronomy and chief of the Rhode Island experiment station of the U. S. Government).

"What We Don't Know About Lime? and the German Viewpoint of the Uniform Testing of Lime."—By E. W. Lazell, Wilmington, Del. (chief engineer and manager of the technical department of the Security Cement & Lime Co. and the Berkeley Limestone Co.).

"The Testing of Commercial Limes."—By S. E. Young, Pittsburgh, Pa. (assistant engineer in the investigation of lime under the supervision of the Bureau of Standards for the U. S. Government).

"The Target for the Reduction of Lime Manufacturing Costs."—By Irving Warner, Wilmington, Del. (general plant manager for the Charles Warner Company).

"The Development of the Lime Plant."—By Chas. Ekstrand, New York, N. Y. (consulting engineer and designer of lime plants).

"The Rate of Decomposition of Limestone Under Heat."—By Warren E. Emley, Pittsburgh, Pa.

"Crushed Limestone in Concrete Fire Proof Construction Work."—By Rudolph J. Wig, Washington, D. C. (concrete engineer on the investigating force of the Bureau of Standards).

"The Use of Limestone in Building Highways, with Hints on Preparation."—L. W. Page, Washington, D. C. (director of the U. S. Office of Public Roads, and president of the American Association for Highway Improvement).

Special Requests—Discussion of papers and the bringing up of any problems that are confronting you; also suggestions for improving the National Lime Manufacturers' Association, and any points that would interest a lime manufacturer.

"If, out of this programme, you do not get twenty-five dollar's worth of information (after you have deposited your money with Col. Cobb, treasurer), in the face of the Sherman Law and the rulings of the Interstate Commerce Commission, he will rebate you.

"Looking forward to meeting you at the National Meeting, I am,

"Very Sincerely,

"William E. Carson, President of the "National Lime Manufacturers' Assn."

LIME FOR FRUIT TREES.

To get the best crop of any fruit or grain there must be the best growth of tree or plant, and this is what lime provides. Dr. E. E. Hilgard, director of the California station, a high authority, says that limestone soils produce a stocky growth of trees so noticeable that one can tell a limestone section by that character of tree growth.

Observation has shown that lime gives a very favorable root growth—a well balanced plant top with roots—and that produces perfection of flowering and fruition. A larger quantity and a better quality are both distinctly noticeable in lime fertilization. Hilgard says also that lime improves the quality of fruit; grapes grown with it are notably sweeter. The sugar beet industry, which is regulated by scientific tests of quality, is most successful on limestone soils.

As lime is not very expensive, the right thing for every fruit grower to do is to make some comparative tests with it, bearing in mind that a true carbonate form can be applied at any season and will not injure either plants or organic matter by direct contact. In fact, the carbonate mixed with manure or commercial fertilizers enhances the value without any waste of fertilizer elements.—American Agriculturist.

PITTSBURGH LIME NEWS.

Pittsburgh, Pa., Jan. 16.—The manufacture of lime for agricultural purposes was so popular and profitable last year that several concerns are going into this line of business next spring. These plants which turned out agricultural lime last year are arranging for a larger output in 1912. The straight lime proposition is very quiet now, as little is doing in building or outdoor construction work. Prospects, however, in the Pittsburgh district are considered flattering for a good year's business in 1912, owing to the big amount of heavy construction work already authorized.

Houston Brothers have had a very successful year in the manufacture and sale of agricultural lime. They are getting ready to have a still larger output in this line next spring.

The plant of the Tiffin Lime & Stone Company at Tiffin, Ohio, was badly damaged by fire lately. The property was insured for $3,000, but the loss is estimated at about $4,500.

W. H. Hazard & Co., of Salamanca, N. Y., have optioned 400 acres of limestone land valued at about $500,000 in Butler county, Pennsylvania. The limestone tested 9 per cent of carbonate of lime. The company is planning to build a branch from the Bessemer railroad at Branchton, Pa., three miles long, to take out its product, and this seems to indicate that the United States Steel Corporation is back of the project to obtain an ample supply for its mills.

The firm of C. B. Kantner and T. J. Caldwell, known as Kantner & Caldwell, was dissolved recently. C. B. Kantner will take over and settle all accounts of the old firm which was located at Sharpsville, Pa.

The Standard Limestone Company, whose president is Daniel Baker, of Baltimore, will rebuild its plant A at Martinsburg, W. Va., which was burned last fall.

The Lisbon Lime Company at Lisbon, Ohio, has been organized by Mark Miller and others of that place with a capital of $10,000 to develop lime deposits in Columbia county, Ohio, forty miles north of Pittsburgh.

The Security Lime & Cement Company, of Berkley, W. Va., has had plans prepared by Architect E. W. Lazell, of Wilmington, Del., for a $30,000 addition to its plant.

The National Mortar & Supply Company has its plant closed down at Gibsonburg, Ohio, but is getting ready to turn out a big total of agricultural lime in the spring. Last year was its best year in this respect and it looks for a brisk revival of business in this line about February 15.

The East Jersey Building Company of Jersey City, N. J., has been incorporated to carry on a general contracting and building business, with a capital stock of $125,000. The incorporators are: H. J. Max, Jersey City, N. J. M. L. Balene, Bayonne, N. J., and G. M. Parker of Boston, Mass.

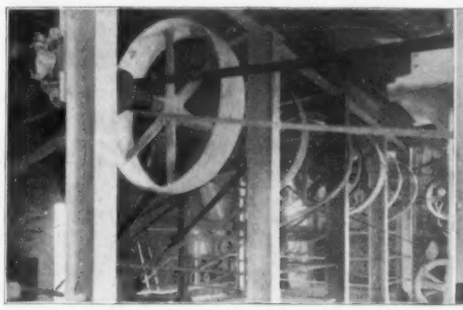
The Perfection Construction Company, of Paterson, N. J., has been incorporated to carry on a general building, contracting and real estate business with a capital stock of $150,000. The incorporators are: R. F. Plants, E. Denivelle and Van C. Bogardus, all of New York City.

The Charles B. Kennedy Company, of Trenton, N. J., has been incorporated to carry on a general contracting, building and real estate business with a capital stock of $25,000. The incorporators are: C. B. Kennedy, F. R. Pidcock and E. M. Kennedy, all of Trenton, N. J.

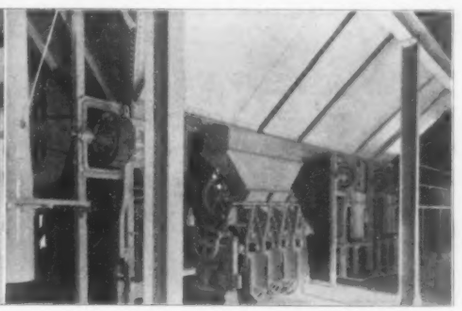
WORLD'S GREATEST HYDRATOR.

(Continued from page 3.)

It will not involve any great expenditure of time or money to visit this plant while you are attending the National Lime Manufacturers' convention in New York, should you care to do so. The distance from New York is not great and the trip will well repay for the time and effort.



MAIN SHAFT DRIVE.



SACKING DEPARTMENT.

ENGINEERS' CLUB MEETS.

Philadelphia, Pa., January 10.—At a meeting of the Engineers' Club of Philadelphia in the early part of December, the following resolution was adopted: Whereas, the failure of the Bayliss Pulp and Paper Company's dam on Freeman's creek above Austin, Pa., on September 30, 1911, calls attention to the insuring the safety of such structures where failure is a serious menace to human life. Therefore, be it resolved, that such structures should be entrusted only to engineers of ability and experience, who should have constant supervision of every phase of the construction; and be it further resolved, that the governor of the state is therefore requested to call a special commission of competent engineers, aided by legal talent, to frame comprehensive regulations providing for the creation of a permanent State Department of Public Works, to be composed of bureaus so constituted that their combined jurisdictions should cover not only the construction of dams, but all other engineering contingencies likely to arise in the near future. It was further ordered that a copy of this resolution be sent to the governor of Pennsylvania.

At a meeting on December 6, President Henry Hess in the chair, a paper entitled "The Water Power Plant of the City of Sturgis, Mich." was presented by Professor Gardner S. Williams.

The Marshalltown (Iowa) Sewer Pipe and Tile Company has started its operation with twenty-six employes, which probably will soon be increased.

The Wichita Falls Brick and Tile Company, of Wichita Falls, Tex., has increased its capital stock from $175,000 to $275,000.

The Calhoun Clay Manufacturing Company has been incorporated in Missouri with a capital stock of $300,000. The company has been organized to take over a brick and tile manufacturing company's properties near Golden Eagle, Calhoun county, Illinois. The company will have offices in the Fullerton building, St. Louis. The incorporators are W. G. Thomas, Charles E. McEwing, A. T. Givesbeck and W. H. Allen.

The Fidelity Construction Company, of Kansas City, Mo., has been incorporated with a capital stock of $100,000. The incorporators are John W. Hoffman, C. G. Brooks and C. Hoffman.

The Walther Construction Company, of Chicago, Ill., has been incorporated with a capital stock of $5,000 to do general building contracting. The incorporators are Frederick W. Walther, Harry W. Kuetemeyer and Samuel J. Lumbard.

The Chicago Contractors' Supply Company, of Chicago, Ill., has changed its name to National Stone Company.

The H. A. Strauss Company, of Chicago, Ill., has been incorporated with a capital stock of $2,500 to do general contracting, engineering and building business. The incorporators are H. A. Strauss, William L. Strauss and E. S. Hartman.

The Wilson Contracting Company, of Newark, Ohio, has been incorporated with a capital stock of $10,000. The incorporators are Edward Kibler and others.

The R. G. Elton Company, of Chicago, Ill., has been incorporated with a capital stock of $2,500 to do general contracting and construction business. The incorporators are Russell C. Elton, Alfred M. Dowle and Laurence V. Teesdale.

The Lund Contracting Company, of Chicago, Ill., has changed its name to McMillan Contracting Company.

The Commonwealth Realty and Building Company, of Cleveland, Ohio, has been incorporated with a capital stock of $50,000. The incorporators are Charles H. Spriggs, E. Loomis Spriggs, John H. Price, T. D. Brown and H. E. Loomis.

The W. S. Ferguson Company, of Cleveland, Ohio, has been incorporated with a capital stock of $10,000 to do building construction. The incorporators are W. S. Ferguson, Carl F. Shuler, A. G. Newcomb, J. Burhea and J. P. Law.

The John Griffiths and Son Company, of Chicago, Ill., has been incorporated with a capital stock of $100,000 to do general contracting and engineering business. The incorporators are John C. Everett, Mar B. McGonigle and Louis C. Joyer.

The Cleveland Construction Company, of Akron, Ohio, has been incorporated with a capital stock of $100,000 to do business in Texas. The principal office is at Fort Worth.

The Mid-West Construction Company, of Kansas City, Mo., has been incorporated with a capital stock of $10,000. The incorporators are H. C. Shimp, James A. Jackson and D. W. Morton.

Fifteen hundred square feet of floor space have been obtained by the St. Paul, Minn., Builders' Exchange in the Ryan hotel, second floor, for exhibition purposes. The exchange headquarters are in the same block.

The Fries Lumber Company, of Huron, Ohio, has been incorporated with a capital stock of $15,000. The incorporators are Frank Crone, George B. Marty, E. N. Conrad, E. Peters and Robert G. McCreary.

A corporation composed of Sharon and other western Pennsylvania men has purchased the Rose State lime brick plant. A charter will be obtained and the capital will be $200,000. The works will be enlarged and improved. Possession was taken about January 1.

SAND-LIME BRICK

BULLETIN TO BE CONTINUED.

The American Association of Manufacturers of Sand Lime Products has issued a circular calling attention to the fact that the monthly bulletins will continue to be a feature of the promotion and publicity department.

These bulletins will be mailed to all members for a nominal sum, just sufficient in fact to defray the actual expenses. Members are invited to send photographs of buildings in which their products were employed.

SAND STONE BRICK.

The handsome front of the Mikle theater is the product of one of Sacramento's leading manufactories, says the Sacramento Free Press of December 30. The light gray sand stone facing brick and ornamental art stone work gives the new Mikle theater much style that is of vast importance and of much credit to the Sacramento Sand Stone Brick Company. The company has a large plant at the mouth of the American river and employs many men throughout the year. This company's product is shown in the handsome fronts of the Wait drug store on J street, the Wait and Miller buildings on Sixth street, and many other fine structures. They now have contracts to supply three large buildings to be erected in this city early next spring. They also have a contract on a new $150,000 school house to be built in an adjoining town to Sacramento.

The new high school at San Leandro, the Congregational church at Pacific Grove, the Carnegie library at Salinas and the immense Pullman car shops at Richmond have the art stone trimmings and sand stone brick made by this firm. The brick has the largest crushing strength known in brick manufactory, it averaging 4,500 pounds per square inch, and can withstand a temperature of almost 3,300 degrees before melting. Its's a Sacramento product and one of the best mediums for advertising the campaign for home products.

THE CHURCH BRICK COMPANY.

Detroit, Mich., Jan. 18.—The Church Brick Co., formerly the Sibley Brick Co., is one of the best known of brick manufacturing plants in the Detroit district. The firm manufactures a white brick that is well and favorably known to Detroit manufacturers, and in the past few years the Church company has grown from a position of comparative insignificance to one of prominence in building circles in this district. The brick plant is operated by the same company as operates the Church Quarry Co. Its plant is situated at Sibley, twelve miles below Detroit, and aside from having easy access to four railroads, is directly on the Detroit river.

W. J. Carmichael of the American Clay Working Machinery Company, whose familiar acquaintance with the Spanish language, as acquired in his Mexican explôits several years ago, fits him for his present pleasant operations in Cuba, where he is putting up a big sand lime brick plant. It is presumed that when William returns he will have to begin all over again with his a, b, c's, so as to talk with his old friends, who have never been so fortunate as to be able to disport themselves in Cuba in the winter time.

CHURCH BRICK COMPANY, SIBLEY, MICH., FORMERLY THE SIBLEY BRICK COMPANY.

CEMENT

Association of American Portland Cement Manufacturers

Meets Semi-Annually.

OFFICERS

Edward M. Hagar..... President
W. S. Mallory..... Vice-President
John B. Lober..... Treasurer
Percy H. Wilson..... Secretary

Executive Committee:
R. W. Kelley,
T. H. Dumary,
John B. Lober,
Whitney Newton,
W. H. Harding,
Geo. E. Nicholson,
A. H. Craney, Jr.,
John R. Morron,
Chas. H. Zehnder,
Bethune Duffield,
W. S. Mallory,
Edward M. Hagar,
R. W. Lesley,
Frank E. Tyler,
Conrad Miller,

SIGNIFICANT FIGURES.

Portland cement showed strength in the 1911 demand, but weakness in price. This condition was due to unwise competition and overproduction, and resulted in a decline from $1.53 to $1.28 a barrel. In 1910 74,000,000 barrels of cement, of a value of $55,500,000, were produced, as against 80,500,000 barrels, of a value of $48,300,000, for 1911, and the mill price 80 cents and 60 cents respectively.

The gain in production in 1911 over that for 1910 was 9.08 per cent, as compared with a gain of 21.3 per cent in 1910 over that of 1909. The falling off in mill price equalled 7.5 per cent.

EASY REMEDY IN ENGLAND.

Cement manufacturers of this country have long complained of the ruinous competition induced by the vast increases in production in recent years. Much the same conditions have prevailed in England, where without a Sherman law the remedy has been easily found. The newly formed British Portland Cement Manufacturers, Limited, with $15,000,000 initial capital, has started boldly to work to eliminate the competition due to the oversupplied condition of the cement market. Its purpose is to amalgamate the large plants of the kingdom and thus, as an English trade authority describes the process, "consolidate the industry in a few capable hands." It sounds strange to American ears dinned with the anti-trust uproar to hear this proposal praised as likely to stop reckless price cutting.

ENLARGE CAPACITY.

The mills of the Piedmont Portland Cement Co., which are located at Portland, Ga., have recently been enlarged, giving the plant now a capacity of about 500,000 barrels per annum.

Fire damaged the plant of the Aetna Cement Company at Fenton, Mich., to the extent of $100,000 and threw 200 men out of work.

The Portland Cement Contracting Company has commenced operations on the erection of a plant at Todd Inlet, Vancouver Island, to cost $1,000,000.

B. M. Aikens, acting for the bondholders, recently purchased the plant and property of the San Juan Portland Cement Company, San Juan, Calif., through Receiver J. J. Croxton. A new company will at once be organized and steps taken to complete the plant and put it into operation with the least possible delay.

A. F. Sinclair, of Easton, Md., has been made general manager of the plant of the Security Cement & Lime Company, Hagerstown, Md., to succeed General Manager Beebe, who has resigned. Mr. Sinclair, who is a member of the American Society of Mechanical Engineers, has been connected with the cement industry for a number of years.

The Alabama Portland Cement Company's plant at Demopolis, Ala., has been purchased by T. M. Wingo, of El Paso, Texas, who will increase the capacity from 500 barrels to 2,000 barrels.

GREAT MILL OF MODERN DESIGN

Plant of the Odgen Company Near Brigham City, Utah, a Type of Perfect Construction.

It is interesting to note that the cement industry is keeping pace with other departments of activity in the far West, where development is going on rapidly. The materials for the manufacture of a high grade of cement exist in inexhaustible quantities in all the western states.

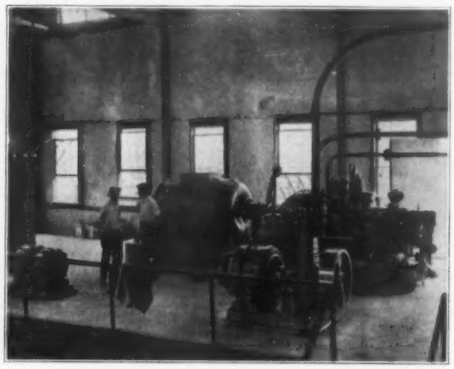


FIG. 1. ALLIS-CHALMERS COMPANY'S 500 KILOWATT STEAM TURBINE ENGINE DRIVEN EXCITER SET IN POWER HOUSE OF OGDEN PORTLAND CEMENT COMPANY.

In the equipment of the mills the most modern machinery is installed and the most up-to-date methods are employed.

The Ogden Portland Cement Company, near Brighton City, Utah, has recently made extensive improvements and additions to their plant in the form of a complete steam power plant and coal grinding mill for supplying coal to the rotary kilns; these two departments being built at the same time the proper distance apart so that coal which is also used as a fuel in the power house can be stored between the two plants and used in either or both from storage, as requirements may demand. These additions were engineered by the engineering force of the Allis-Chalmers Company and machinery was furnished by the same company. The buildings are of steel with rib metal lath sides and corrugated iron roofs. The building side walls are plastered on both sides with Portland cement plaster, as are the remaining buildings in the plant, which makes a very excellent and good appearing structure. Electrical current used is 3 phase, 60 cycle alternating current.

The Ogden Portland Cement Company already owns a water power plant in the Wasatch mountains, where the power from an alternating current generator, which together with power supplied from Brigham City, has been supplying their requirements up to the present time. The capacity of the plant has been materially increased, however. The new plant was designed and installed with the idea of all the power required being supplied from one unit, if desired. The water power plant will in all probability be continued in operation up to its capacity, the balance being supplied from the new steam plant.

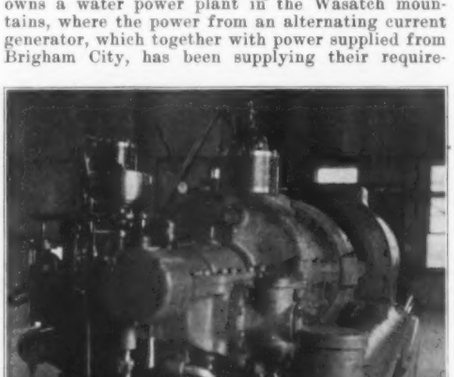


FIG. 2. CLOSER VIEW OF ALLIS-CHALMER'S COMPANY'S STEAM TURBINE IN OGDEN PORTLAND CEMENT COMPANY'S POWER HOUSE.

The steam plant consists of a five hundred kilowatt alternating current high pressure steam turbine shown in illustration. The excitation is provided by either one of a ten kilowatt engine generator exciter set or a motor generator exciter set. The turbine is provided with a "C" condenser placed immediately underneath same on the lower floor. The condensed water is run over a water cooling tower set immediately east of the power house proper. Steam is supplied by two 227-horsepower Sterling boilers and in the plant are duplicate boiler feed pumps with the proper feed water heater, complete switchboards, etc. In fact, everything to make the plant a model of its kind of the highest efficiency requiring the minimum number of operatives.

Three 125 kilowatt transformers change the incoming current from the outside to the same current as the plant, viz.: 110 voltage, and the incoming current from the outside as well as the current generated by the plant at Brigham City may be used in parallel with the current generated at the cement plant power house. The motors throughout the cement plant are all heavy duty design, especially adapted to cement plant use.

This equipment having all been furnished by the Allis-Chalmers Company is all operating successfully in perfect harmony, the plant being ideally balanced in every way and having operated successfully from the start.

The coal mill was added to replace high speed coal grinders originally installed by another company in order to bring this department up to the same standard of efficiency as the balance of the plant. The coal mill is provided with a 4 by 40 ft. rotary coal dryer which discharges the dried coal into a hammer mill from which it is elevated into a tank over the coal grinding tube mill. The finely pulverized coal leaving the tube mill is elevated and conveyed over a steel bridge crossing the railroad tracks to bins in front of the rotary kilns. The pulverized coal is drawn from these bins by coal feeders and blown into the kilns by special injectors; both feeders and injectors having been designed and built by Allis-Chalmers Company especially for this plant. Coal is brought in by rail and dumped from a trestle immediately in front of the boilers in the power house and in front of the conveyor feeding the coal mill. There is sufficient room between the coal mill and power house to store a large quantity of coal, all of which can be fed either into the power house or coal mill as may be desired.

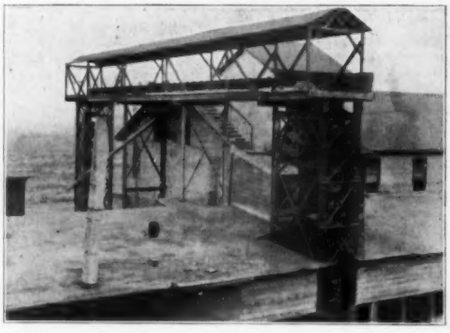
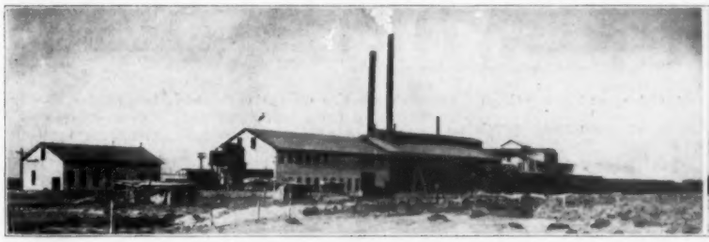
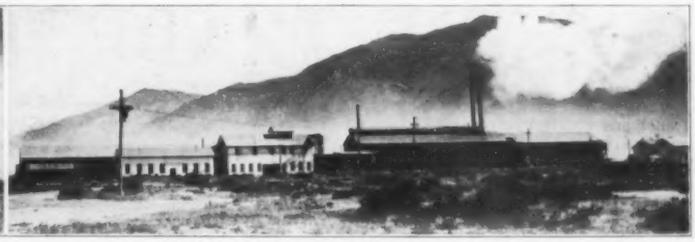


FIG. 3. PIVOTED BUCKET CARRIER FOR HANDLING CEMENT IN FINISHING MILL OF THE OGDEN PORTLAND CEMENT COMPANY, OGDEN, UTAH.

The Ogden Portland Cement Company is using a very unusual deposit of marl and clay lying adjacent to the plant, which is almost perfectly horizontal and of great extent. This deposit is as smooth as a ball room floor and without a particle of vegetation or foreign matter covering it. The marl is on top and about 6 feet to 10 feet in thickness. The clay is immediately underneath and of great thickness, so that there is always ample clay exposed by the digging of the marl. The normal operation of the plant develops these raw materials as rapidly as required. The raw materials are both very wet and easily dug. The digging is done by an orange peel locomotive derrick crane.



GENERAL VIEW OF THE OGDEN PORTLAND CEMENT COMPANY, OGDEN, UTAH, FROM THE NORTHEAST.



GENERAL VIEW OF THE OGDEN PORTLAND CEMENT COMPANY, OGDEN, UTAH, FROM THE SOUTH.

This deposit was once covered by a prehistoric lake known to geologists as "Old Lake Bonneville," which was a fresh water lake that existed prior to Great Salt Lake. Old Lake Bonneville was fresh water, but in all probability the water ability accounts for the lack of vegetation covering the deposits. In the burning of the cement this salt is driven off in gaseous form through the stacks of the kilns, so that the bases leaving the stacks appear to be heavy and of a whitish color, rolling out and over the tops of the stacks like heavy whitish clouds. On account of the moisture in the materials, and the fact that they are already finely pulverized, cement is made by the wet process; the marl and clay being brought to the plant from the digger by four or six yard cars drawn by

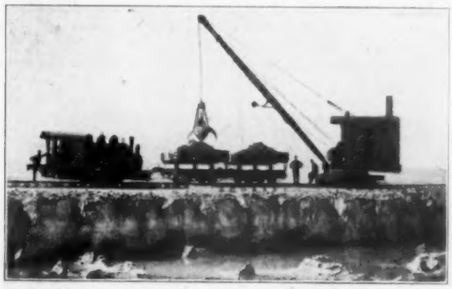


FIG. 4, DIGGING MARL AND CLAY FOR THE MANUFACTURE OF CEMENT. OGDEN PORTLAND CEMENT COMPANY, OGDEN, UTAH.

a small locomotive. It is then dumped into two pug mills in proper proportions, water added, and the pugged slurry elevated to mix tanks, through which it is fed to a tube mill. After leaving the tube mill it is elevated to three large slurry tanks immediately in back of the kilns, where it is analyzed, sampled and fed to two 7½'x100' rotary kilns. The resulting clinker leaving the kilns is cooled in a rotary cooler and ground in two Sturtevant ring roll mills operating in connection with Newaygo screens and finely pulverized into finished cement in another tube mill on the clinker side.

The Ogden Portland Cement Company has its general and sales offices in the Utah National Bank building, Ogden, Utah. W. J. Bell is president and purchasing agent, H. C. Day is vice-president, H. C. Baker is second vice-president, R. E. Bristol is secretary and sales agent. The capitalization is $500,000 and the capacity is 500 barrels a day.

LOUISVILLE CEMENT NEWS.

Louisville, Ky., Jan. 18.—Business among the cement manufacturers of this city has maintained its usual activity and all companies have work on hand which will keep them engaged for several months. New buildings are springing up all over the city, forcing the cement firms to their capacities. The demand has been excellent for the last few months and this phase of the business is causing no worry.

The only drawback just now is the weak state of the market. While cement is selling in large quantities, the prices are not what they should be. Local men, who have made a close study of conditions, fear that no improvement is to be expected for some time.

Henry Gray, of J. B. Speed & Co., is among these. Mr. Gray declared that the fact that 1912 is a presidential year, would work against a firmer market. "I can see little chance for putting the market on a firm basis for some time," he said. "I am pretty sure that conditions will remain rather unsettled during the early part of the new year. In fact, the presidential election is apt to hurt all lines of business, and naturally the cement trade will not be exempt."

Cement men, in spite of this condition, are taking a cheerful view of things. The excellent and increasing demand is an encouraging indication and all are doing a splendid business.

The Kosmos Portland Cement Company is among the concerns which are doing a fine business, with future orders ranging well above those of other years. The plant will be improved in the near future, according to a recent announcement. The capacity will be doubled by the addition of new furnaces, and other necessary mechanical equipment. The details will be forthcoming in another month. The company has just secured one of the largest contracts of the year, that of the new Inter-Southern Life Insurance Company building, which will be erected on the northeast corner of Fifth and Jefferson streets. Its cost will be in the neighborhood of half a million dollars. C. M. Timmons attributes the low prices governing cement to the overstocked condition of the market. Heavy demand has not been sufficient to offset this condition.

The engagement of Charles E. Horner, an officer of the Kosmos company, to Miss Fanny Thurston Ballard, has been announced. Miss Ballard is the daughter of Mr. and Mrs. Charles T. Ballard, the former being one of the proprietors of the Ballard & Ballard flour mills. The wedding will take place next June.

The Continental Portland Cement Company, of St. Louis, has been reorganized, and the capital stock of the company has been reduced from $3,500,000 to $3,000,000. C. A. Cunningham, secretary of the Union Sand and Material Company, has been elected president to succeed David A. Marks, and Nelson W. McLeod, president of the German Savings Institution, will be the new chairman of the board of directors.

NEW YORK CEMENT NEWS.

New York, Jan. 13.—The interval has occasioned little of interest in the local cement trade, and the market continued in the dull and uninteresting lines reported in these columns of late.

A large number of plans have been filed recently for the erection of reinforced concrete buildings in this vicinity, but work will not be started on these projects until next spring.

Dealers are not in a position to express their opinions concerning future developments in the cement market, but are rather inclined to take the conservative side of affairs.

G. A. Molitor, of the Northampton Cement Company, reviewing the local cement trade said: "The conditions in the cement market remained unchanged during the past month, and business continued just as quiet as reported during the previous month. From now on the dull winter season will be with us and the majority of all construction work will be stopped, if not all of it. The price of cement is being quoted at a varying range and no one knows how low sales are made. Our company has refused orders at the present quotations as we do not care to do business at a loss."

E. B. Morse of the Frank B. Morse Company stated: "Business was fairly good during the past month, and the fair weather during the latter part of the month was ideal for building purposes, and work has continued on the large concrete jobs; however, as soon as the bad weather sets in operations will undoubtedly cease entirely, during the winter months, and dealers will prepare for future business."

S. Wells, manager of the New York offices of McCormack Waterproof Portland Cement Company, said: "There is very little concrete construction work going on in this vicinity at the present time, and all orders booked now are for work to be started in the near future. Architects are specifying our waterproofing compound and sales are steadily increasing, and our product is meeting with universal satisfaction. We have obtained a good sized contract, the work to be started in February."

Dealers are of the opinion that it is a little too early to predict the prospects for business in the spring months, but are optimistic as to what the opening season will have in store for them. It is reported that manufacturers will not close contracts to deliver cement after April 1 at the present low prices. This would indicate that the bottom has been reached and that prices in the spring will improve.

Taking as a criterion, the numerous plans recently filed in New York City and vicinity for erection next spring of reinforced concrete factories, garages and other structures there are indications that large supplies of cement will be consumed.

Another good feature to gladden the hearts of concrete men was the defeat of the proposed building code, which favored the exclusive use of hollow tile over concrete for fireproofing and building. At the special meeting of the Board of Aldermen on December 29, the proposed building code was strenuously opposed by concrete men and was defeated by a vote of 39 against and 34 for. It was necessary to poll 40 votes in its favor in order to be successful. One of the most disorderly scenes in the history of the Board marked the meeting as a whole. The defeat of the code practically insures its death, inasmuch as the incoming Board of Aldermen will have a Republican and Fusion majority, which it is believed would not seriously consider the passage of the ordinance as proposed at present. This fact, it may be said, makes likely the elimination of legislation of this nature until February, at which time the committee of experts appointed by Borough President McAneny is expected to have completed a scientific and more practical building code.

As a striking example of the demoralized condition of the cement trade during 1911, one of the large New York cement manufacturing company's financial report for the year ending November 31, 1911, shows a deficit of $20,085, as compared with a surplus of $4,286 for 1910, $29,176 for 1909, and $129,287 for 1908.

The Ironton Portland Cement Co., of Ironton, Ohio, is mailing out to the trade a postal card, showing the government dam at Fernbank, Ohio, in which thousands of barrels of their famous Limestone brand was used in its construction.

The Lehigh Portland Cement Co. has recently closed a contract with the city of Winnipeg, Canada, for 25,000 barrels of cement for 1912 delivery. This order was secured in the face of strong competition, and will be shipped from the Mason City, Iowa, plant.

The Keystone Portland Cement Company, Ltd., with headquarters at Frank, Alta., has been incorporated with capital stock of $600,000. The officers of the company are: A. Muller, Frank, president; E. T. Cunningham, Lethbridge, vice-president. The company has already acquired a large property lying about a mile west of Frank.

The Nebraska Portland Cement Company, Omaha, Neb., held its annual stockholders' meeting recently and elected the following officers: C. J. Bills, Lincoln, president; D. B. Sherwood, Omaha, vice-president; C. H. Walrath, Omaha, second vice-president; E. E. Bruce, Omaha, treasurer, and H. E. Calkins, Omaha, secretary.

Work is being rapidly pushed on the 35-acre site of the Inland Portland Cement Company at Trent, Wash. When completed this plant will represent one of the largest and most important in that section of the country.

From all indications a period of depression is due in the California cement market during the winter, as there is some accumulation at present, and no heavy movement can be expected before spring. Prices at present are lower than for nearly a year past, and are likely to remain easy for some time to come.

CEMENT TRADE THE WORLD OVER

Interestng reports on cement and concrete have been made public by the Department of Commerec and Labor. They were received from American Consuls in all parts of the world.

Cement in Germany.

In Germany reinforced concrete is extensively used in large buildings and the steel frames are filled with sandstone and ornamental brick. The manufacture of sand-lime bricks has assumed large proportions, there being more than 280 plants in operation. Hamburg firms sell them at $4.76 per thousand. The walls of the brick structures are coated with Portland cement and painted. Ornamental work for reinforced concrete buildings is made upon the premises by wooden molds or the decorative figures are carved by stone cutters from walls made thick to admit of the treatment. Concrete blocks introduced into Germany a few years ago were unsatisfactory, as they proved more expensive than brick. The Germans also use a brick made from cement and slag, which is light in weight, but has sustaining power. It is used for interior walls of office buildings. Consul Skinner says there is little chance of introducing American concrete molds and tamping machines, owing to opposition to uniformity by builders. An engineer has suggested the manufacture of light concrete roofs.

In Italy.

Consul Deedmeyer reports that there are cement rock quarries of high value in Italy, five miles from Leghorn, the supply of which is practically inexhaustible. The quarries are leased and a company manufactures about 60,000 metric tons of high class hydraulic cement a year. Most of the cement is used in Italy, although some is exported to Egypt and Turkey.

Market in Russia.

Construction work in which cement enters is abundant in Russia, according to a report from Consul Grout. "So extensive is it that Russian cement works are hardly able to supply the demand, and builders are turning to points outside for supplies." He adds that the Russian cement manufacturers are considering raising prices. The cement factories in southern Russia have formed a syndicate known as the "Russian Cement Trading Co.," which will regulate sales. The bourse committee of Novorossysk has requested similar committees of other cities to take up the question of means to prevent increased prices. It is said that the Minister of Finance will be asked to diminish duties on foreign cement or temporarily remit them. Owing to its superior grades many contracts for Russian cement in the export trade are in force. Cement bricks and tiles have been experimented with, but have not given universal satisfaction. The Russian government proposes the construction of a graving dock to be the largest of its kind in the world. The amount of cement needed will be enormous and the Consul says will be too much for the Russian factories to supply.

Chance for America.

American manufacturers can build up a trade in concrete mixers in Prague, Austria, according to a report from Consul Brittain. There has been a large amount of concrete work done there in recent years, and the mixers are operated by electricity on extensive work, and by hand on small contracts. Wages are low and women are largely employed in the construction of buildings, he says. The concrete mixers are imported from Germany.

Use of Portland Cement in Turkey.

Cement forms an important item of Turkey's purchases from France, Austria, Germany, Russia, Great Britain, Belgium and Greece. An English cement known as the Hollick brand, is handled extensively. France formerly controlled the Turkish cement market, but it has lost its popularity, and has fallen in imports from 30,000 to 5,000 tons a year. Foundations in Turkey are laid in iron and cement to resist earthquakes. Buildings are faced with lime and sand mixture, and black cement lime washed. Ten years ago no Portland cement was used in Turkey, but since then there has been an increase of 30 per cent yearly in the use of the cement. An expert has estimated that 130,000 tons can be used in Turkey at present, of which only about 40,000 tons are supplied by Europe, which indicates a splendid opportunity for American interests to get the business. The price is going up because of building activity.

American Company in Asia Minor.

Three years ago an American company began making concrete building blocks in Asia Minor and now Trebizond, one of its cities, has several buildings made of these, and ornamental blocks are used in other buildings of stone and brick. The new bank of Athens was built by this firm and is the best in the city. The business has proved so satisfactory that a branch has been opened at Samsun, where a good busines is expected.

Zanzibar uses mostly English cement. Cement is used on the two German railways. On account of the great distance and the high freight rates it is not thought that American cement can compete with the European.

Cape of Good Hope and British South Africa in 1910 imported nearly two hundred million pounds of cement, valued at $602,939. From the United States 32,000 pounds, valued at $500, was imported. The greater part came from Great Britain. Portland cement is being manufactured in the Transvaal.

Opening in China.

Little Portland cement is used in the Foochow district of China, as there are few buildings to use it on and no cement walks, but Vice Consul Thompson says that there may be an opening for white Portland cement. The Chinese buildings are ornamented with stucco designs and figures, and he thinks if white Portland cement could be furnished at a low price there might be opportunity for business, although the Chinese are conservative and might not take to the scheme. There is a large cement plant near Hongkong and two or three others in northern and central China, and competition in the ordinary lines of cement.

Consul Moorhead says cement is used to a large extent in Burma. Modern steel framed buildings with brick walls and cement facings are going up. The Public Works Department uses a great deal of cement in constructing public buildings and bridges. The Rangoon Port Trust is constructing a large training wall for which much cement will be needed during the next five years. In 1910 Burma imported 318,785 hundred-weight of cement, valued at $204,500. No cement has been imported from the United States in the last five years.

No Share in Large Siamese Trade.

Concrete construction is also used by the Siamese Public Works Department and for the foundations of public buildings, walls of canal locks and sewers, bridges, but the cement is not manufactured locally, although much material for its production is not far from Bangkok. There has been a steady increase in imports in 1910 amounting to 21,000,000 tons. The United States has as yet no share in this trade, says Vice Consul Hansen.

In 1909 the Straits Settlements imported 194,000 casks of cement valued at $712,000, and exported 53,000 casks valued at $137,000.

Losses in the Philippines.

Consul General Anderson at Hongkong says Hongkong has regained its hold on the cement trade of the Philippine Islands at the expense of American cement exporters. The imports into the Islands in 1911 show a large increase in receipts, but a decided decrease in cargoes from America. The tariff law admitting American cement free into the Islands was followed by a gain of imports of American cement. The imports of cement by the Philippines for commercial purposes were valued at $331,000 in 1908, in which trade the United States had no part. In 1909 the imports were valued at $247,000, of which the United States supplied $300 worth. In 1910 the commercial imports were valued at $416,000, of which $103,078 came from the United States. The United States exporters tried to get trade that heretofore has been controlled by Hongkong cement manufacturers, but failed. The use of concrete by Filipinos and Chinese in the Islands is on the increase. The nipa house posts are being placed in concrete foundations, and trade is expected to advance.

How to Ship to New Zealand—Large Orders Wait Proper Packing.

The New Zealand Federation of Waterside Workers will not handle lime or cement not contained in dust proof bags or casks, beginning January 1 of this year, according to Vice Consul Baker. They claim that the handling of cement as now put in creates clouds of dust which is bad for the health of the men and ruins the clothes. No objection is made to imported cement coming in paper lined casks. The local manufacturers, to avoid conflict with the union, are trying to secure paper lined bags satisfactory to the workers. A leading manufacturer cabled the United States for samples of hemp bags lined with corrugated paper, which were quoted at $30 per thousand. The samples were folded and packed in such a way that they were badly crushed and leaky and the workers' union would not approve them. Other samples in better condition are expected, and if they meet approval large imports will follow from the United States. One firm has an order for 50,000 bags waiting the first manufacturer who can submit satisfactory samples. In Australia also paper lined bags are becoming a necessity for the cement trade and at Melbourne there was a strike caused through refusal to handle dusty bags of cement. The bags should hold 190 pounds. The demand for cement for construction of concrete buildings is increasing. Earthquakes have not damaged any of the re-enforced concrete buildings, and the rate of insurance on them is lower than on other buildings. Farmers are using immense quantities of cement, as are the railroads, the harbor works, docks, etc. The New Zealand cement industry has assumed large proportions in recent years. There are twenty lime and cement works in the Dominion and the plants will be increased. Notwithstanding the large production, 131,675 barrels were imported in 1910 from England. It is feared that the tariff bars the Americans from this district.

Ferro Concrete Poles.

Consul General Prickitt at Auckland says the Post and Telegraph Department of New Zealand has commenced to use telegraph poles and pillar letter boxes made of ferro-concrete, and that wooden poles will soon be a thing of the past.

Lethargy as to South American Trade.

The use of cement in Chile has increased in five years and it is expected the consumption will double during the next five years. In 1906 the imports were 50,000 tons, of which England furnished 26 per cent, Germany 56 per cent and the United States only 3 per cent. In 1910 the imports were 80,000 tons, of which the United States supplied 12 per cent and Great Britain and Germany the same proportions as in 1906.

United States Takes Canadian Contract.

Consul General Jones at Winnipeg reports that that city has contracted for 25,000 barrels of American cement. The cement is to be furnished by the Lehigh Portland Cement Co., of Chicago, which outbid the Canada Cement Co., 71.43 cents per 100 pounds, as against 72.65 cents by the Canadian firm.

CEMENT CONDITIONS IN CANADA.

By Kennedy Stinson.

Cement conditions in Canada are good; good for the manufacturer, good for the dealer and good for the user. A happier condition exists in no other country.

There are twenty-five cement plants operating here, eleven of which are owned by the Canada Cement Company; the balance, fourteen, operate independently.

The Canada Cement Company makes more cement than all of the others combined, and its mills are well located for economical distribution. The company is undoubtedly very ably managed and on account of its broad policies has already become quite popular with the trade. It was formed at a time when the cement business of Canada was in a state of chaos and when prices were being cut to such an extent that no one knew what next to expect.

The first move on the part of the company was to adjust the price of its product throughout the Dominion. The result of this adjustment found prices raised to a considerable degree above the ridiculously low level of the few preceding months; but not higher; in fact, not so high, I should say, as had existed in any previous normal year.

In 1910, when people were quite naturally expecting a further advance, they were surprised by a general reduction in price of about ten cents per barrel, and in 1911 a similar voluntary reduction was made, and the company now makes no secret, in fact it has publicly announced that its future policy will be along these lines, that is, to give to its customers the benefit of savings in cost of manufacture and distribution created by increased consumption and output, which I should think ought to be considerable each year, and I look for the time, and not far off either, when, in spite of the manufacturing conditions against us, cement will be sold as cheaply in Canada as in the United States, figuring on normal conditions in both countries, of course, as a basis of comparison.

There comes up every now and again (which you have probably noticed in various Canadian papers), a whole lot of talk about one thing and another in connection with the Canada Cement Company and how it ought to be investigated by the government, etc. One time, it's high prices to bleed the public; another time, it's low prices to kill the small mills; another time, it's poor deliveries, or poor cement, or any old thing which may happen to come into the mind of whoever the particular political "ax-grinder" may be, but this criticism so far has come from parties whose reasons for personal gain by such steps were so self-evident, and whose statements showed such complete ignorance of the various subjects, that the thinking people of Canada have paid little attention to the same. Complaint, for instance, was made that cement is higher in Winnipeg than across the border in Minneapolis. How ridiculous a comparison this is: first, Minneapolis enjoys a 5c per 100 lb. rate from the nearest cement mill, whereas from the nearest mill to Winnipeg the rate is 29c per 100 lb. Then, too, what perfect folly to compare prices existing under the normal or, I might say, prosperous conditions of Canada, while prices are, as every one knows, and have been for a long time, frightfully demoralized in the United States. When cars are scarce the company is blamed for holding up building operations, and when a mishap occurs to a building in which its cement was used, long articles come out in the papers about how the "Merger" supplied poor cement. Little attention is paid to any of the other things which would more likely have caused the trouble than the quality of the cement used. There are a great many things which can be built of cement to better advantage than are now being built of other materials, but, the people don't know it. The Canada Cement Company is trying hard to teach them, and has published no less than twenty different books, treating on different subjects, all of which are free. The company has even offered prizes for the best illustrations of work done with cement. It has a special department devoted to giving, free of charge, expert advice to people seeking knowledge in the use of concrete beyond that which is published by the company in book form. For the sake of humanity, if for no other reason, every one should encourage this good work. Think of what it will mean when our office buildings, our factories, hospitals, school houses, asylums and theatres are all built of cement, which is not only the cheapest to maintain but absolutely the only fireproof construction known. The people are gradually beginning to realize it, but the manufacturer is needed to dituse this valuable knowledge, which cannot be done if he is forced to sell without profit. The consumer needs protection; so does the manufacturer.

The Canadian Government will never permit any trust or monopoly to ride rough-shod over the people, neither will it permit a young and indispensable business to be tampered with and its growth stunted, just because a few, who do not know what is for their own good, would have it so. The Canada Cement "Trust" has used the people right, and so long as this continues, may it prosper.

SAND AND GRAVEL

The National Association of Sand and Gravel Producers, organized in December, a report of which was published last month, is going along in its work most satisfactorily. The association has issued a little booklet telling the objects of the organization, and a copy of it will be sent to all who are interested. The front and back cover of the booklet are shown here.

The sand and gravel men of the United States are addressed as follows in the introductory part of the book:

"The association of men engaged in any industry is essential to the advancement of that industry. In these days of rapid business growth the association is even more necessary than in former years.

"The sand and gravel industry, as such, is one of the youngest of the modern industries, and its growth each year is remarkable.

"The National Association of Sand and Gravel Producers was organized at the Auditorium Hotel, Chicago, Dec. 15 and 16, 1911, for the purpose of securing among producers of those materials co-operation and mutual benefits that accrue from an alliance for the common good.

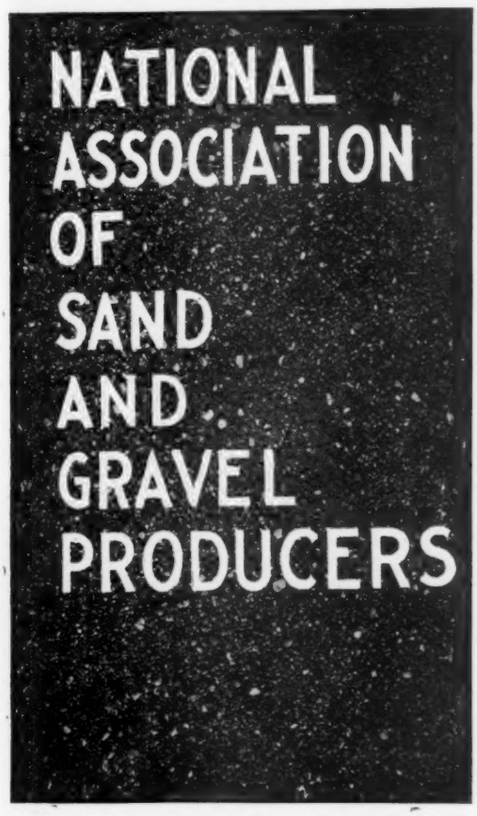
"Co-operation, helping one another, is the great modern business power that keeps the wheels of industry steadily revolving with the least friction —establishes a 'get together' spirit among the trade, promotes that feeling of good will generally, which helps to 'live and let live,' and furthers the best interests of every concern whose broad policy permits of a correct understanding and appreciation of the principles involved.

"The National Association of Sand and Gravel Producers is an organization of live, representative men, which aims not only for the greatest possible co-operation among its members, but which is characterized by the warmest fraternal feeling among the rank and file of the membership. One of the aims of the association is to secure from the railroads the most equitable rates both in the interest of the producer and the consumer, and another important department for which a committee was appointed at the first meeting was a classification committee to commence the work of securing a uniform classification of sand and gravel.

"In other ways it is planned to further the work of the association so that every producer will derive direct benefits from it, a value to him far exceeding his annual membership cost.

"It is YOUR association, organized to promote the industry YOU are interested in."

Quite a number of new members have been enrolled since the meeting. Write to President Frank W. Renwick, Chicago Gravel Co., Fisher Bldg., or to B. F. Lippold, secretary, 537 S. Dearborn street, for a copy of the booklet and membership application blank.



FRONT COVER DESIGN OF BOOKLET ISSUED BY NATIONAL ASSOCIATION OF SAND & GRAVEL PRODUCERS.

NEW COMPANY FORMED.

Portland, Me., Jan. 16.—The Consolidated Broken Stone & Gravel Co., a new corporation, with $200,000 capital stock, secured control of the extensive sand, gravel and crushed stone business of the Munjoy Gravel Company, together with all its real estate and equipment, located on Larch and Sheridan streets, and also the stone crushing plant of the New England Concrete Company, with its almost unlimited supply of rock, situated on Brighton avenue, near Stevens avenue.

The reason given for this consolidation and merger is reduction of cost of production, larger storage facilities, better service, and a determination to carry such a large stock on hand of thousands of tons of manufactured product as will enable contractors to secure any amount of material at a few hours' notice.

A number of valuable matters not yet in a position to be given to the public add greatly to the strength of the new company. The officers and stockholders of the new company are well known business men of Portland and ample capital is already assured for the needs of the company. Such consolidation as this means much to a city and is especially welcome to Portland, which badly needs manufacturing plants. George C. Owen, of Owen & Moore Co., is president of the new company.

NEW SAND VESSEL ORDERED.

The Pelee Sand & Gravel Co., who recently organized for the purpose of handling sand and gravel from the Canadian beds at Cleveland and other south shore ports, have placed an order with the American Ship Building Co. for a sand steamer which will cost about $80,000. The new craft will be delivered early in May. It will be 166 feet long; 37 feet beam, and 10 feet molded depth, and will be fitted with a compound engine 17½ and 38½-inch cylinders, with 30-inch stroke. A self-unloading device and electric light plant and other equipment which is to be found in recently constructed sand vessels, will be installed. It will be equipped with two 12-inch pumps. While the company is not an old concern, those who are interested in it have been in the business for some time. They are all residents of Cleveland, and the keel of the ship will be laid at the Cleveland yards of the ship building company.

BUILDING NEW DIGGER.

Owensboro, Ky., Jan. 16.—Winter building in this little city on the Ohio is slow, but there is good prospect for spring. The Kentucky Sand & Gravel Co., who dig river sand here on a large scale, were visited. They report the situation quiet. The firm is building a new digger now.

ACQUIRE NEW LAND.

The officials of the Peoria Washed Sand and Gravel Company, of Peoria, Ill., announce the acquiring of land which they expect will furnish them with 3,000,000 to 5,000,000 cubic yards of gravel for the use of the concern. The new land is situated just north of Chillicothe and includes a tract of forty acres, with a frontage of 1,500 feet on the river front. This company is at present furnishing gravel for the majority of the concrete and paving contractors in Peoria, obtaining their supply from Sandy Point at Rome and other Illinois river bars. With their new tract purchased the entire equipment of seven barges and a steamer will be put upon the working out of the Chillicothe pit. The company will use a huge pumping plant for the mining of the gravel, working from the river side of the land, and pouring the mined gravel direct into the immense barges. Both the Rock Island and Santa Fe railroads run in close proximity to the land, furnishing the company with a ready means of outlet should the river method become inadequate. The Peoria branch of the concern is situated between Fulton and Liberty streets on the river front.

The Crystal Lake Sand Company, of Chicago, Ill., has increased its capital stock from $5,000 to $15,000.

P. Robertson, superintendent of the Beaver Valley Sandstone Company, Waupum, Pa., says the item which appeared in a recent issue of ROCK PRODUCTS stating that his company had been working overtime turning out crushed stone for building purposes, and that they also had orders for limestone for culverts and trestles on the railroads and trolley lines, should have been credited to the Cambrian Limestone Company, as the Beaver Valley does not handle crushed rock of any kind.

The Washed Gravel & Sand Company, Dayton, Ohio, has purchased a large tract of gravel land near Jackson, Mich., and will erect a plant to cost about $75,000.

The Honey Creek Sand and Gravel Company, Terre Haute, Ind., has been incorporated, with a capital stock of $10,000.

The Lake River Sand Company, Cleveland, Ohio, filed a petition in voluntary bankruptcy on Dec. 14.

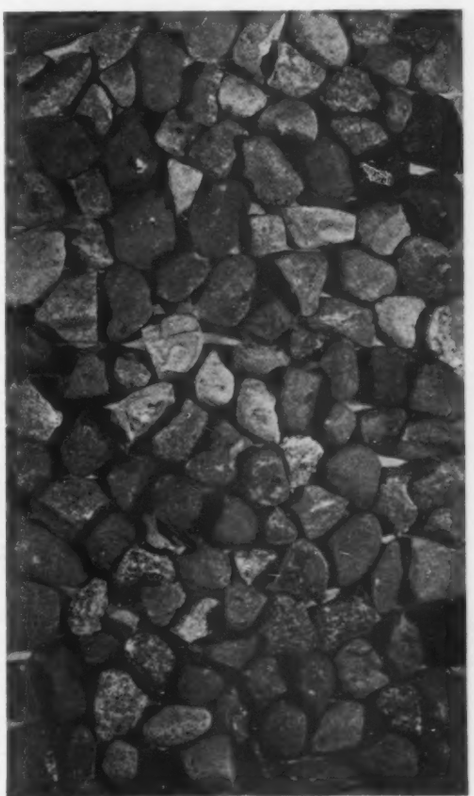
The C. H. Little Company, of Detroit, Mich., has purchased the sand and gravel business of Byron S. Aldrich, of that city, and will secure control of a gravel bed at Pelee island and sand deposits along the short front at Pearl Beach, St. Clair river.

The Lake & River Sand Company, Cleveland, Ohio, has filed a voluntary petition in bankruptcy.

The office of the Kirkpatrick Sand & Cement Company, Birmingham, Ala., was damaged by fire recently. The loss is estimated about $9,000.

The Honey Creek Land and Gravel Company, of Terre Haute, Ind., has been incorporated with a capital stock of $10,000. The incorporators are E. A. Davison, C. A. Park and E. Florence.

The Erie Sand & Gravel Company, of Erie, Pa., has bought the Reed dock at the western end of the west slip at the Erie harbor for $65,000. The basin in which the dock is planted is to be dredged and improved by the state. The sand company now operates on one of the docks of the Pennsylvania railroad.



BACK COVER DESIGN OF BOOKLET ISSUED BY NATIONAL ASSOCIATION OF SAND AND GRAVEL PRODUCERS.

RAPID UNLOADERS

On the Isthmus of Panama Have a Capacity of Five Thousand Cubic Yards.

In the building of the locks for the Panama canal enormous quantities of cement, sand and crushed rock are required for making the concrete. But among these the problem of handling the sand is one of the most vital on account of the great waste entailed.

This sand is in an enormous body, free from loam or vegetable matter and is very white and sharp. It is obtained from a bar on the Pacific coast about twenty-five miles west of the city of Panama. Here it is loaded into steel barges of 500 cubic yards capacity by means of a steam operated ladle or bucket dredge.

After being elevated by the ladle-dredge the sand is deposited into chutes leading to the barges, and sufficient water is then added to cause the sand to flow through the chutes into the barges. This process continues until the barges become filled with sand and water and the water finally flows off over the top of the barges as the sand takes its place.

Because of the water in the sand, after being conveyed to the storage bins and into the cars, there is an enormous amount of waste due to the leakage of the sand with the water. This loss is exceedingly large, especially when thousands of cubic yards are being handled—in fact, the tracks are white with sand, from the point of loading to the discharge stations.

Plans are now being perfected so that the water will be pumped from the barges and this will materially decrease both the total load to be handled and the percentage of loss.

As originally planned, there were to be two distinct sand handling plants, one for each terminal. But since the partial failure of the sand handling plants for the Atlantic division, extra duty has been imposed on the Pacific division and these cranes are now handling the majority of the sand being used on the Isthmus.

The cranes have a span of fifty-five feet from center to center of tracks, and the trusses are high enough to pass over double storage bins under which the locomotives and cars pass for loading, and the cranes are sufficiently high to allow the storage of sand four feet above the top of the bins.

The barges are brought alongside of the dock by tugs and are then anchored to the piling before the work of unloading them is begun.

The cranes have a cantilever extension of thirty-three feet beyond the center line of the rail next the water, thus enabling the operator to cover the sand over the most remote portions of the barge.

The grab-bucket used for this work is of the four-line cram shell tight and weighs 1,000 pounds empty. Its normal capacity is 3⅝ cubic yards of sand and water.

All the movements in one machine are controlled by one man located in the operator's cage on the shear leg next to the water. This enables him to watch the movement of the bucket in every position for loading into the barge and discharging into the bins. The machines are so designed that the various movements can be performed separately with any other movement.

When the bucket has reached its highest position it is sustained by an automatic mechanical brake until the bucket has reached the top of the bridge, when a reversal of the hoist motor automatically releases the clutch and allows the load to be taken on the back wheels, which are automatically controlled.

The three Cleveland crane sand unloading machines on the Pacific division have a capacity of 5,000 cubic yards of sand in eight hours. This is so much in excess of what has actually been used that the storage piles are increasing very rapidly and it will be a matter of a few months until the large amount of sand storage on hand will compel them to discontinue operations until some of the material is used.

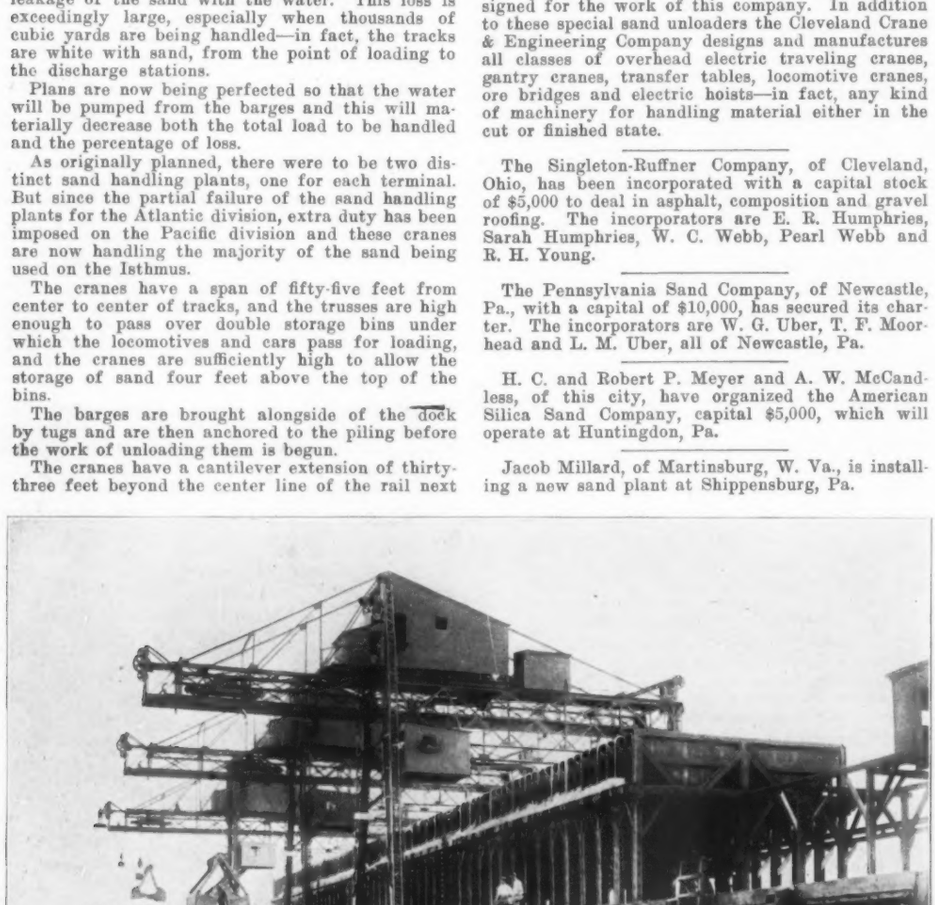
These sand unloaders are the most rapid handling plants on the Isthmus and were especially designed for the work of this company. In addition to these special sand unloaders the Cleveland Crane & Engineering Company designs and manufactures all classes of overhead electric traveling cranes, gantry cranes, transfer tables, locomotive cranes, ore bridges and electric hoists—in fact, any kind of machinery for handling material either in the cut or finished state.

The Singleton-Ruffner Company, of Cleveland, Ohio, has been incorporated with a capital stock of $5,000 to deal in asphalt, composition and gravel roofing. The incorporators are E. R. Humphries, Sarah Humphries, W. C. Webb, Pearl Webb and R. H. Young.

The Pennsylvania Sand Company, of Newcastle, Pa., with a capital of $10,000, has secured its charter. The incorporators are W. G. Uber, T. F. Moorhead and L. M. Uber, all of Newcastle, Pa.

H. C. and Robert P. Meyer and A. W. McCandless, of this city, have organized the American Silica Sand Company, capital $5,000, which will operate at Huntingdon, Pa.

Jacob Millard, of Martinsburg, W. Va., is installing a new sand plant at Shippensburg, Pa.



SAND UNLOADERS ON THE PANAMA CANAL.

PITTSBURG SAND AND GRAVEL NEWS.

Pittsburgh, Pa., Jan. 17.—Things are pretty dead with sand and gravel people just now. Low water in the rivers, heavy floating ice and general frozen up conditions have put a stop to most work. Outside construction work, street jobs, etc., are also tied up for the same reason so that the firms are resting on their oars. Last year was a disappointment to most Pittsburgh concerns in this line. There were some good river jobs, but in general the trade was not up to 1910 in amount of profits. Just now the outlook for this year seems especially promising, and while winter weather is holding back actual work, the different companies are getting their boats and plants in shape for a big spring. The most encouraging feature of the situation is the larger amount of foundry and glass sand being bought the past six weeks.

The Rodgers Sand Company reports that its 1911 business was several hundred cars behind 1910. It regards the indications for a good year's business in 1912 very much better than they were one year ago. At present it is working only one dipper and one boat, but is getting everything in readiness for lots of activity next spring.

The Iron City Sand Company has finished its big job on the raising of Federal street, north side. Most of its boats are idle and it is waiting on good weather.

James Jiles Company at Liberty and Thirty-eighth street reports its business in a very promising condition. Its product is foundry sand, as it has discontinued the sale of building sand entirely. It gets its foundry sand from two plants, one in the hill district of Pittsburgh and the other on Woodland avenue, north side, and reports a big increase in demand the past two months.

The Winfield Sand Company the other day took an order for one hundred tons a day of grinding sand for a big plate glass company, to continue to April 1, 1912. Its business in glass sand has been increasing at a very satisfactory rate of late and last year in this respect was pretty encouraging.

The window glass and plate glass situation is considerably improved in the Pittsburgh district. More plants are working and better time is being made now than for a few months. Several failures occurred late in 1911, but the activities of the glass companies now is such that they are buying glass sand much more freely than a few months ago. In molding sand for the foundries there is a stiff increase in demand. Many new foundries are being erected and extensive improvements are being made to existing plants all through this district.

NEW YORK SAND AND GRAVEL NEWS.

New York, January 15.—Quietness prevailed in the local sand and gravel market during the past month, as is usual this season of the year. The severe cold weather and the frozen rivers have made navigation dangerous, and the delivering of sand and gravel is almost at a standstill. Dealers are now overhauling their plants.

An advance of ten cents for sand has been announced during the past month and the item is now quoted at 45 cents per cubic yard, alongside. Dealers have not been satisfied with the low price of sand and gravel during the past year and claim that they have experienced difficulty in realizing any profits. The amount of business placed during 1911 involved satisfactory proportions. Members of the trade look forward to a revival in the sand and gravel business as soon as construction work commences. A number of big jobs were not completed before the cold weather set in.

Joseph N. Ely, of the Crescent Sand & Gravel Company, had the following to say regarding the sand and gravel trade: "There is very little doing in sand and gravel at present. The severe cold weather has stopped all production of sand and gravel, and we are now giving our plant a general overhauling. The price of sand has been advanced 10 cents and is now quoted at 45 cents per cubic yard, alongside New York City. Twelve cents extra is charged for unloading. Gravel has remained unchanged and is quoted at 85 cents, per cubic yard, same conditions. Sand sold at 25 to 35 cents a cubic yard during the past year, which was a low figure, and dealers report profits realized meager. We have acquired a large tract of sand and gravel property which will make our plant one of the largest in the country. This will enable us to increase our capacity to eight scows a day.

"Business during the past year was very good, but according to the large amount of material sold

the profits were not what they should have been on account of the low prices.

"The fuel oil engine which we installed in our plant last summer has given entire satisfaction, and not long ago, during a busy spell, it ran consecutively for fourteen days and nights."

Charles A. Fox, general manager of the Phoenix Sand & Gravel Company, made the following remarks concerning the sand and gravel trade: "The demand for sand and gravel continued good during the past month, and we look for conditions to continue along these lines until the bad weather sets in. Commencing next month the dull winter season will be upon us and conditions will be quiet until spring opens."

James C. Ewing, general manager of the Goodwin Sand & Gravel Company, made the following remarks concerning the sand and gravel trade: "Business has been good with us during the past month. The general market has taken care of our output, and as yet no sand and gravel have been delivered for subway work, and the builders of the tube will not be ready for our product until next spring, if not later. The price of sand and gravel has remained unchanged, sand is quoted at 30 cents per cubic yard, alongside, and gravel 80 to 85 cents per cubic yard, alongside, Manhattan.

FINE SAND AND GRAVEL DEPOSIT.

J. B. Sperry, of the Crystal Sand and Gravel Company, Battle Creek, Mich., is planning a great development of his property next year. The deposit lies east of Battle Creek, and the markets of Battle Creek and Kalamazoo are immediately contiguous to it. The product of this pit is exceptionally fine and admirably adapted to all manner of concrete work and for the manufacture of glass. Silica of the finest grade is found there in abundant quantities. The prevailing sandstone of Calhoun County is brown stone, but the deposit on the same on Mr. Sperry's property has nothing in common with the other materials of the vicinity. The glacier seems to have collected a fine quality of material and deposited it here, and now it is to be used to advantage in that locality. It contains good road gravel, roofing gravel, torpedo sand and other sands of the finest grades.

NASHVILLE SAND MARKET.

Nashville, Tenn., Jan. 16.—Your correspondent yesterday called on W. T. Hardison & Co., sand dealers. They report the winter building situation raggy and much difficulty in getting sand out of the Cumberland river. On account of locking there has been a settlement of mud. The river has been high for three weeks. The same firm reports the lime and cement trade quiet.

LOUISVILLE SAND NEWS.

Louisville, Ky., January 18—The past month, which has marked the exit of an old and the entrance of a new year, has been featured by noticeable activity in the Bluegrass sand trade, despite the fact that for the past week there has been practically nothing doing. Considered as a whole, the past thirty days have been remarkably satisfactory, for the weather was such during a greater part of the time that concrete construction could proceed without hindrance and the result was that an unusually good amount of business was recorded during what is usually a very dull mid-winter period.

The sand men are getting all that is coming to them now in the way of torpor, however, for about a week of zero weather has sufficed to paralyze the building trade temporarily and little if any active work is under way at present. Consequently the sand men are enjoying a mid-winter breathing spell, planning bigger and better business for early spring, inasmuch as all signs are very auspicious for a high-class structural year in 1912, similar to that record-breaker, 1911.

At present a minimum quantity of sand is being delivered through the Falls Cities, only enough for what little interior work there is in progress. Diggers along the Ohio river have been housed for the winter and will not be touched for thirty days or more, until the time arrives to renovate them and get everything in ship-shape order for a crush which will be unavoidable as soon as the first building weather breaks.

Business is reported to be very slow with the Ohio River Sand Company. The company's plant has been shut down and the entire routine of business is slackened until warmer weather will permit of wider demand and deliveries. "There will be nothing doing until spring," said an Ohio River officer, "and until that time we shall be in winter quarters."

The Nugent Sand Company is operating upon a very light schedule, according to its report, but is managing to work full time every pretty day that comes along. One or two big jobs which are being handled by this company, including the 10-story Weissinger-Gaulbert apartment annex, demand occasional deliveries even during the frigid spell, and consequently the Nugent company has scant opportunity for complaint. Deliveries to the Watterson Hotel and the Falls City Construction Company's sky-scraper have been finished by the sand men.

The E. T. Slider Company is not working much in either producing supplies nor making deliveries. The sand trade with this company is naturally hibernating for a time, and the only evidence of activity is the work of preparation which is under way for a big spring season.

The Ohio River Gravel & Sand Company, of Paducah, Ky., has just acquired half interest in the Paducah Transfer Company in that city, it is reported. The transfer company was recently reorganized, including the transfer of considerable of its capital stock, and is now preparing for a very successful year in 1912.

A very unique birthday gift was presented last week by Jacob Eichel, general manager of the Evansville Sand & Gravel Company, of Evansville, Ind., to his son, Leslie Eichel. Mr. Eichel, Sr., presented his son with one-half interest in a tow-boat bearing the latter's name, which is employed by the Evansville sand and gravel supply men in transferring their stock from the river to the yards.

THE CRYSTAL SAND & GRAVEL COMPANY'S BANKS, LEVEL PARK, MICH. FIFTY ACRES OF THE FINEST SAND AND GRAVEL IN THE STATE FOR COMMERCIAL GRADES.

BIRMINGHAM SAND NEWS.

Birmingham, Ala., January 17.—The Kirkpatrick Sand & Cement Company, one of the largest operators in this and kindred lines in the entire South, secured contracts for the American Trust building, the new twenty-story, million dollar skyscraper which the Fred A. Jones Co., of Dallas, Tex., is now constructing, the new $150,000 Y. M. C. A. building and the new hotel building at Savannah, which is estimated will cost $250,000. H. M. Blanchard, sales manager of the Kirkpatrick Company, in speaking of conditions-at-large, stated that "as far as local building operations go, while extremely active, they have been of such a nature as to have little bearing towards improved conditions in the sand and gravel lines."

"However," continued Mr. Blanchard, "we have made a steady fight for every 'job' on the market, working as eagerly for the small as well as the large contracts and as a result having a fairly large volume of orders on which deliveries have been completed and enough 'future orders' booked to feel that the market, as far as we, personally, are concerned, will be steady. Another element which has been conducive of encouraging activity has been the epidemic of road building throughout the entire state of Alabama and of Georgia, in fact, all the mid-southern states, and nearly every sand and gravel supply house in the field has been benefited by the percentage of trade which this tendency always creates."

The Kirkpatrick Sand & Cement Company, of which J. D. Kirkpatrick, president of the Atlantic & Gulf Cement Company, is chief executive also, is doubtless the largest shipper of sand and gravel in the whole state of Alabama. The Kirkpatrick company operates nine separate gravel and sand pits in the state on four different lines of road running into Birmingham, and reports are to the effect that "full time" has been observed at all of the workings until the present month, plans having been made to reduce the output somewhat on the coming first. The local plant of the Kirkpatrick company is located at Powell avenue and Twenty-forth street, where unusually large stocks of sand, gravel, crushed stone, cement, lime, plaster, terra cotta, plaster and all other kinds of building materials except lumber are carried, and a heavy and efficient sales force is rapidly extending the patronage of the firm throughout this entire section.

A new concern, known as the Southern Gravel Company, with offices at Eastman, Ga. (W. W. Simmons and E. C. Hosford composing the company), is installing a gravel plant at Alcorn, Ga., with the most modern equipment and the company, backed by ample capital, is planning to operate on an extensive scale. Mr. Simmons stated to the correspondent of ROCK PRODUCTS (in a letter received a few days ago) that the company is now producing and shipping washed and screened gravel of all sizes, suitable for roofing gravel, reinforcel concrete gravel, rough concrete gravel and building sand. The gravel beds owned by this company are large and the washing and screening equipment, of the most approved designs, is sufficient to enable the Southern Gravel Company to handle contracts of any magnitude.

L. C. Mayo, sales manager of the Empire Sand & Supply Company, which has its workings at Prattville Junction, in talking to a representative of ROCK PRODUCTS a few days ago, said: "The trade is certainly quiet now. We are always busy making deliveries on our contract-customers' standing orders, but have not figured in on any especially interesting new contracts in some time.

The largest barge on Puget Sound is one just launched at the Nelson & Kelez shipyard at Seattle, Wash., for the Pioneer Sand & Gravel Company, of that city. The barge is known as the P. S. & G. No. 11, and is 140 by 42 feet, drawing 15 feet of water, with a capacity of 1,500 tons. The only barge on the Sound approaching her in size is the P. S. & G. No. 10, built recently. She will be used to carry sand and gravel to Vancouver, B. C. The company plans to build two more vessels on the same lines.

The Salem Sand & Gravel Company has been incorporated at Salem, Ore., with a capital stock of $10,000.

Ford & Malott, of this city, are now making good progress on their new gravel washing plant on Alameda creek near Niles, Cal., the construction material having been received at the site early in December.

The West Virginia & Pittsburgh Sand Company has voted to increase its capital stock from $125,000 to $160,000. Its headquarters are at West Berkley, W. Va.

PLASTER TRADE DEVELOPMENT IN THE SOUTH.

Two things of particular interest, and one of them especially cheerful were heard recently in talks with people from the south country.

One of them was the comments of a visitor who had been down in Louisiana, about the great quantity of ceiling used down there and the scarcity of plaster, especially in frame houses.

The other incident was that of a dealer in building material down in the southern part of Kentucky who said: "Do you know the greatest thing in our business this year has been the development in the plastering trade? We are selling about ten cars of plaster now to where we sold one a few years ago."

Further inquiry from him developed the fact that heretofore the people in his community had used wood ceiling quite extensively, but since the coming of hard wall plaster a little more attention has been given to plaster until finally the call for it seemed to all come in a rush and during the past year he has had ten times as much call for plaster as in former years and he belives this is only the beginning of the plaster trade with him.

Put these two things together and we have some mighty interesting things to consider from the plaster standpoint.

The one suggests a great territory in which there has not heretofore been used anything like the percentage of plaster that might be used in connection with frame buildings. The other suggests that the time and trade is ripe for a boom in plaster.

It is a matter that should have the immediate active attention of both the retail dealers and plaster manufacturers who are anxious to push their product out into new fields. It is a thing to get together on and get busy at.

The new plant of the Sunset Plaster Company, at Fillmore, Cal., is preparing to start up on a commercial scale, and expects to make its first shipments about February 1. The material has just been received for the construction of a tram from the quarry to the plant, and is now being set up. About 30 tons of plaster was produced in the test run about December 1, but this was used on the plant itself. The company was organized in 1909, but was reorganized last year, and most of the development work has been done since that time. The plant has a capacity of 200 tons a day.

LOUISVILLE PLASTER NEWS.

Louisville, Ky., Jan. 18.—The wall plaster trade of Louisville and Kentucky is not nearly so numb as one might suppose from a perusal of the prevailing records of the weather bureau, which indicate mercurial registrations anywhere from zero downward. Even during the exceedingly cold weather of the past week or ten days a certain amount of plaster has been set, out of all proportions to the amount that would usually result during such a season. Prior to the cold snap business progressed along standard lines even during the holiday season.

The reason for the unusual stimulus which is evident in the plaster trade at this time of the year is universally conceded to be the record-breaking amount of building which was contracted for and pushed to completion in 1911. A portion of the $6,500,000 building year protruded into 1912 in the shape of unfinished jobs which had to be given interior touches in a hurry, in spite of adverse weather conditions.

Falls City plasterers are well equipped to handle work even in cold weather, possessing various grades of mix which are not affected by ordinary freezing points, and in this regard the trade has been able to satisfy the demands of the public with proportionately fine returns for itself. The outlook for the first half of 1912 in the plaster trade is excellent. A large number of important contracts are already in definite prospect, and inasmuch as more will develop as spring approaches the Falls City fraternity is confidently expecting an early spring season which will rank as satisfactorily as did its predecessor in 1911. Business will regain normal standing within thirty days, or about the first of March.

The Kentucky Wall Plaster Company, according to General Manager Campbell, experienced a record-breaking business year in 1911. "The year was far ahead of 1910 and undoubtedly surpassed any twelve-month in our history in the matter of business production," said Mr. Campbell. "Things are running very quietly now, in the face of a very cold snap, but we are doing a little work here and there, and have fine prospects for development as soon as the weather moderates a bit."

The Atlas Wall Plaster Company is putting the finishing touches upon several medium-sized residence jobs upon which it has had an option for some time. Plenty of prospective residence work exists for this company, coupled with several important out-of-town contracts which President William Selke is keeping an eye upon.

The cold weather, aside from having a numbing effect upon the plaster business, is proving personally uncomfortable for President William Selke, of the Atlas Wall Plaster Company, and the genial Parkland plasterer has departed for a sojourn in Florida. Mr. Selke will spend several weeks in the land of the pineapple. A deal is now pending for the installation of a new mixer in the local Atlas plant, and the sand shed has been considerably enlarged.

The Southern Wall Plaster Company is finishing a $1,000 piece of work upon the George Rogers Clark school in this city. The company will start operations, as soon as it is practicable, upon the Arcade, which is being erected for Judge J. Wheeler McGee at Third and Walnut streets. In addition to this fine volume of mid-winter work, the Southern company is confidently expectant of an unusually prosperous spring, and will probably install a new mixer in preparation for coming events.

P. J. Daly, Jr., of the Southern Wall Plaster Company, spent some time in Frankfort, Ky., during the past month, superintending work of his company in the Capital City.

W. M. Adamson, of Douglas, Texas, contemplates moving his gypsum plaster works to Los Angeles, Cal.

The plant of the New York Adamant Plaster Company, East Newark, N. J., was destroyed by fire the latter part of December.

The plant of the New Jersey Adamantine Plaster Company in East Newark, N. J., was badly damaged by fire recently. The loss is estimated between $40,000 and $50,000.

The Hercules Plaster Board Company, Hampton, Va., was incorporated with capital stock of $300,000, to manufacture plaster board.

The Garbutt Gypsum Company, of Rochester, N. Y., has filed a petition in bankruptcy.

The Fishack Gypsum Company, of Toledo, Ohio, has increased its capital stock from $65,000 to $200,000.

PLYMOUTH MEN HAVE ANNUAL BANQUET.

Fort Dodge, Ia., Jan. 20.—The Plymouth Gypsum Co. and the Plymouth Clay Products Co. had their annual salesmen's banquet at the Wahkonsa hotel last night. The following were in attendance: L. E. Armstrong, president and general manager, who presided at the banquet; Mr. E. L. Marsh, vice-president; D. E. Roberts, sales manager for the Plymouth Gypsum Co.; G. M. Eilenberger, sales manager for the Plymouth Clay Products Co.; A. J. Armstrong and E. E. Fletcher, of Chicago, who have charge of the Plymouth Gypsum Co.'s office in Chicago; H. J. Osterlund, F. M. Cougill, H. L. Hinners, J. T. Garland, J. L. Johnson, T. L. Murphy, W. T. Anderson, J. M. Norton, T. B. Kershaw and F. J. Hedman, who represent the selling force; H. Anderson, general superintendent of the Plymouth Gypsum Co. O. Simonson, general superintendent of the Plymouth Clay Products Co., and John Heller, superintendent of the mines.

The banquet was a very successful one and a very enjoyable evening was spent in listening to speeches and some very good stories were told, Mr. W. T. Anderson acting as toastmaster, which part he handled in a very satisfactory manner.

The Plymouth Gypsum Co.'s salesmen meet every year to compare notes and look over the different improvements made at the plants and to post themselves on the new specialties which the Plymouth Gypsum Co. are continually adding to their line, one of the new features being the National Steel Studding, on which E. E. Fletcher, of Chicago, gave a splendid talk. Many matters of interest to the gypsum industry were discussed.

The National Fireproofing Company, of Pittsburgh, Pa., has purchased the property of the Great Eastern Clay Company at South River, N. J., and will take over the company's three big plants very shortly.

The Calhoun Clay Manufacturing Company has been incorporated in St. Louis, Mo., with capital stock of $300,000. The incorporators are: W. G. Thomas, Charles E. McEwing, A. T. Givesbeck and W. H. Allen.

The Vitrolyte Tile Company, of Cleveland, Ohio, has been incorporated with a capital stock of $5,000. The incorporators are Henry J. Harks, A. E. Bernsteen, John H. Fathauer, M. L. Bernsteen and Irene Nungesser.

Representatives of the different clay factories in Brazil, Ind., report that prospects are much better for next season than they were at this time last year. They are satisfied that there is a fairly good season before them.

The Shawmut Vitrified Brick Works, Brockwayville, Pa., have been having an unusually good season during the past few months and have disposed of their brick as fast as they made them. This concern is one of the busiest to be found anywhere.

The National Fireproofing Company, of Pittsburgh, has bought the properties of the Great Eastern Clay Company in South River, N. J., for about $1,800,000. This will increase the output of the big burned clay product concern fully 100,000 tons a year.

The Cleveland Brick Sales Company, of Cleveland, Ohio, has been incorporated with a capital stock of $10,000 to deal in burnt clay products. The incorporators are P. D. Belden, R. W. Hartung, R. W. Umbenhour, George W. Belden and H. S. Belden, Jr.

The P. B. Townsend Brick Contracting Company, of Zanesville, Ohio, has started work on a plant 70x120 feet which will be used for making paving and face brick and fireproofing material. It will have a capacity of 400 tons a day. A 500-horsepower plant will be installed.

Samuel P. Adams, general manager of the Portsmouth Fire Brick Company at the time of its absorption by the Harbison-Walker Refractories Company, is now affiliated with the Pyro Clay Products Company, Oak Hill, Ohio. Mr. Adams' father was the founder of the Portsmouth Fire Brick Company.

The Pennsylvania Clay Products Company has put in two new presses at its sewer pipe plant in Butler county, Pennsylvania, and started the plant. It will be run full by February 15 and will have one of the finest operations in the state. The managers of the plant are Frank Hartford and Frank Overkurtz.

The Harbison-Walker Refractories Company held its annual meeting January 15. Its annual report for the year ending September 30, 1911, shows earnings of $1,686,335; $281,104 for ordinary repairs and maintenance and depreciation of the plant. All profits, after paying the regular 6 per cent of the preferred stock, was equal to 4.33 per cent of the common stock. The latter received 2 per cent in dividends for the year and will have $430,201 to be carried to surplus.

Booth & Flinn, Ltd., of Pittsburgh, one of the biggest paving concerns in Pennsylvania, have bought the bluestone plant of the Pope Cement & Brick Company near Dunbar, Pa. John J. Carroll will be superintendent. The plant under the old firm employed 300 men, but Booth & Flinn will increase the number to at least 500 and will run the plant at full capacity all year. This plant is one of the largest bluestone plants in the state and has a practically inexhaustible supply of bluestone of the finest quality on both sides of the creek. The product is shipped on the New Haven & Dunbar railroad to either the Pennsylvania railroad or Baltimore & Ohio.

"SECURITY"

MEANS

Quality and Service

SECURITY CEMENT AND LIME COMPANY. SECURITY PORTLAND CEMENT SECURITY, MD.

The satisfactory results on Government, Municipal and important Private Works in Baltimore, Washington and contiguous territory, necessitating increasing output to 2,000 barrels DAILY, is our strong evidence of QUALITY.

Four railroads, i. e., Pennsylvania, Baltimore & Ohio, Norfolk & Western and Western Maryland Railways, plus a plant storage capacity of 100,000 barrels, emphasize our claim to SERVICE.

Every barrel guaranteed to meet Standard Specifications. Especially adapted for cold weather work.

SECURITY CEMENT AND LIME BERKELEY PRODUCTS BERKELEY, W.VA.

BERKELEY HYDRATE

("The Lime you'll eventually use")

The Essence of Lime in the Finest Form Makes Mortars and Concretes Water-proof Lightens and warms the color tone.

"ALCA" LIME

(Trade Mark)

A perfect and most economical cementitious material for all-around use in mortars, stuccos and in plasters, inside and outside.

Prepared with or without hair.

A reasonably quick-hardening, highly plastic, hydrated lime, ready for immediate use for all purposes.

Our engineering department will solve your problems at no cost to you. Ask your dealer or write us for prices and interesting literature.

Security Cement and Lime Company

Equitable Bldg., BALTIMORE Oliver Bldg., PITTSBURGH WASHINGTON

Concreting in Cold Weather

A Free Booklet

A complete discussion of the question of mixing and handling concrete in freezing weather. Of vital importance at the present season by reason of the increasing use of cement during the winter months and the demand for rapid building construction.

Address the nearest office of the Company

Universal Portland Cement Co.

Chicago — Pittsburg

72 W. Adams St. Frick Building

Minneapolis Office—Security Bank Building

Annual Output 12,000,000 Barrels

ST. LOUIS PORTLAND CEMENT WORKS. RED RING ST. LOUIS BRAND

SALES OFFICE: Liggett Bldg., St. Louis.

THE

Standard Brands

OF

PORTLAND CEMENT

Lightest in Color

Highest Tensile Strength

THE KANSAS CITY PORTLAND CEMENT WORKS. KC CEMENT KANSAS CITY.

SALES OFFICE: Long Bldg., Kansas City

ALWAYS UNIFORM

Always the same high quality. Prompt shipment guaranteed and made possible, as each mill is located within switching limits of the two greatest railroad centers of the West. You are assured of your orders being promptly filled.

MANUFACTURED BY

Union Sand & Material Co.

ST. LOUIS Liggett Bldg. KANSAS CITY Long Bldg. MEMPHIS Tenn. Trust Bldg.

WETHRPRUFE

Open Mouth

WATERPROOF WETHRPRUFE TRADE MARK REG. U.S. PAT. OFF.

Bates Valve

WATERPROOF

An Extra Heavy, Extra Strong WATERPROOF PAPER BAG For Cement, Plaster, Lime, Etc.

West Jersey Bag Co.

Camden, N. J.

Spring Trade Suggestion

HANDLE

"Chicago AA" Portland Cement

"The best that can be made"

IF you appreciate handling a product which has no superior, and one that by reason of its superiority, is preferred by the consumer; if service, fair and courteous treatment appeals to you; if you value the co-operation of the manufacturer—then we think we can secure your patronage during the coming season. Such is OUR product and our method of marketing it, recognized and appreciated by the dealer for fourteen years. Let's hear from you. A postal card will bring prices.

PRESENT OUTPUT **1,500,000** BARRELS ANNUALLY

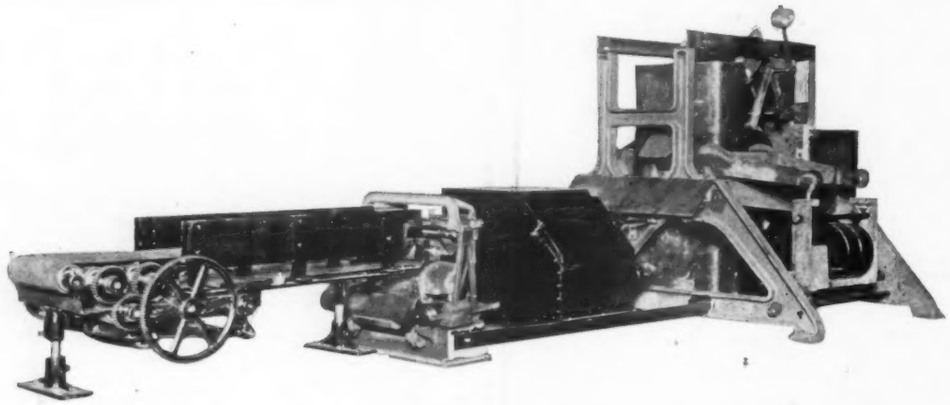
Chicago Portland Cement Co.
J. U. C. McDANIEL, Sales Manager
30 No. La Salle St., *Dept. 74* Chicago, Ill.
Fifth Annual Chicago Cement Show. Write us for full information.

MEACHAM & WRIGHT COMPANY
CEMENT
CHICAGO

Saylor's Portland Cement
Oldest American Portland
Used by the United States Government since 1876
COPLAY CEMENT MANUFACTURING CO.
SALES OFFICES:
Fifth Avenue Building, NEW YORK CITY
1106 Land Title Bldg., PHILADELPHIA

WHITEHALL
PORTLAND CEMENT
Whitehall Cement Manufacturing Co.
1722 Land Title Bldg.
Philadelphia

Robert W. Hunt Jno. J. Cone Jas. C. Hallstead D. W. McNaugher
ROBERT W. HUNT & CO., Engineers
Bureau of Inspection, Tests and Consultation
New York—90 West St. Chicago—1121 The Rookery Pittsburg—Monongahela Bank Bldg.
London, E. C., Eng.—31 Norfolk House San Francisco—425 Washington St
Montreal—Can. Exp. Bldg. St. Louis—Syndicate Trust Bldg. Mexico City, Mex.—20 San Francisco St.
Tests and inspection of Cement—Reinforcing Steel and all Cement Materials and Products—Supervision of Construction and Tests of Concrete Structures—Reports on Cement Properties and Existing Concrete Structures—Design of Cement Plants and Inspection of Cement Machinery—Chemical and Physical Testing Laboratories.
"All Manner of Tests on all Classes of Material"



Cement of the highest quality is only made by the exact required proportions of

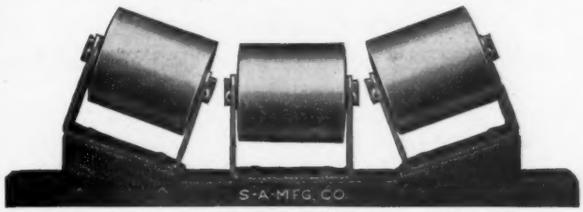
CLINKER AND GYPSUM

Your chemist, with this machine, will give the desired result

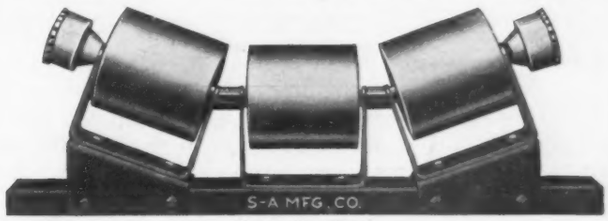
AUTOMATIC WEIGHING MACHINE COMPANY

134 to 140 Commerce Street, NEWARK, N. J., U. S. A.
439 Pierce Building, - ST. LOUIS, MO., U. S. A.

A NEW CARRIER FOR BELT CONVEYORS



Ballbearing Type



Grease Cup Type

(Convenient Arrangements of the Unit Rolls)

The "S-A" Unit Carrier is formed of a combination of individual unit rolls mounted on steel plate brackets. The units are exact duplicates and with various combinations all styles and sizes of carriers may be formed. The Unit Carriers are adjustable to every condition and absolute flexibility is provided. As each roll has two supports, the maximum strength is secured although the carrier is of lighter weight than any other carrier of like capacity. Each type of Unit Carrier has its peculiar advantages and offers superior service at less cost than any other type of carrier.

Every user of belt conveyors should study the advantages of this type of carrier.

WRITE FOR BULLETIN R. P. 12.

Stephens-Adamson Mfg. Co.

AURORA, ILLINOIS

CHICAGO NEW YORK PITTSBURGH BIRMINGHAM LOS ANGELES PORTLAND SAN FRANCISCO

Element of Magnesia

The universal use of concrete has compelled study of this plastic material in its many phases. One of the last to impress itself upon users in general is the element of magnesia in Portland Cement. This is not strange, since so much of the output of the mills run high in magnesia, and no mill wants to cast a doubt upon its own product. Our output runs less than 1% magnesia. You will have to look far and wide to match Superior in its low-magnesia record. Then it is dust-fine, giving a combination which means economy and endurance. Superior is a true Portland cement, costing no more than the ordinary brands. Ask for our free literature on magnesia.

SUPERIOR ENDURES

Union Trust Bldg., Cincinnati, Ohio.

JUSTUS COLLINS, President

Superior Portland Cement Co.

OTTAWA SILICA CO.

Ottawa, Ill.

Washed-Steam Dried and Screened

White Sand

Unexcelled for
- Facing Concrete Blocks
- Ornamental Concrete Stone
- White Plaster
- Roofing
- Exterior Plastering
- Sawing Stone and Marble, etc.

Analysis 99.90%

Prices, Freight Rates and Samples on Application

Shipped in Paper Lined Box Cars or in 175-lb. Bags

You can order less than a carload, in fact shipments as small as five 175 lb. bags can be delivered economically.

LARGEST SHIPPERS OF WHITE SAND IN THE UNITED STATES

We Will Exhibit at All Three of the Big Shows

NEW YORK - CHICAGO - KANSAS CITY

The variety of our designs has now become so great that it is no longer practicable to ship and exhibit anything like a complete line of Simpson Concrete Porch Columns. We have therefore spent some months in making molds for **Miniature Concrete Models of Column Blocks,** and we will show in our booths about thirty beautiful little columns, exact copies of the full size ones. The engraving gives an idea of them, and more of them appear on another page of this issue of "Rock Products." We will also show a big lot of the large blocks—**nearly 200, and scarcely two alike.**

We have been at all the National Cement Shows ever since they began at Milwaukee six years ago. Our displays of porch trimmings, and other ornamental concrete work, have always been an important feature of these great shows and tremendous crowds of people have inspected our exhibits with intense interest.

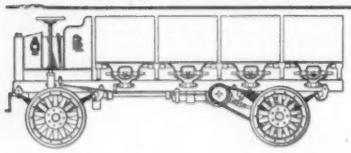
It is a noteworthy fact that of all the large number of exhibitors of all classes at the National Shows of five or six years ago only a few remain in business today. It shows with absolute certainty that in the concrete field, where so many men are busy every day developing new ideas, only those articles of the highest merit are able to stand the fierce test of time.

SIMPSON MOLDS

began to make good at the very beginning and sales have steadily and constantly increased ever since. The molds have gained a high reputation which is worth so much to us in dollars and cents—in hard cash—that we could not possibly afford to do anything to injure it. For instance, we could not afford to allow the molds to lose anything of the accuracy and perfection of interior finish which has been the admiration of every man who ever used them. Nor could we afford to stand still in the matter of new designs and improvements. We could not afford to make representations which the molds do not fulfill in every respect. In short, we could not afford to risk losing a good business which it has taken years to build up. Our guarantee is ironclad, and you can absolutely depend upon it.

Our new catalogue goes into full details concerning the molds and the work done in them and contains more than 100 half-tone engravings from interesting photographs. It is well worth your attention, and you can have it upon request

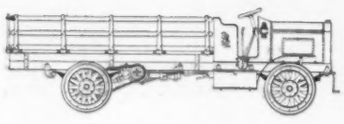
THE SIMPSON CEMENT MOLD CO. 119 Vine Street COLUMBUS, OHIO



"LONGEST TRUCKS"

(Made in Louisville.)

Both types made in three and five ton sizes.



Not assembled but designed and manufactured complete in our own shops. (We buy only the chains, roller bearings and muffler. Castings made from our patterns.)

After eight years of experience in the Automobile business, both mechanically and commercially, we have in the "Longest" truck selected those points of construction which have proven themselves by test to be right.

Examine our various selections in construction, compare them with the best points in other leading trucks. We have not experimented. Only tried out and approved principles have been adopted.

Our first truck was exhibited at the Louisville Automobile Show in March, 1910. Since then a thorough test has convinced us that we have a first-class article which we can recommend in every respect and which will stand the tests of time.

LONGEST BROS. COMPANY, (Incorporated) **Louisville, Kentucky**

"STAG" BRAND

MANGANESE STEEL

Wearing Parts for all Crushers

JAW, CHEEK AND TOGGLE PLATES

SOLID AND MANTLE HEADS

FOR ALL SIZES OF GYRATORY CRUSHERS

SPUR AND BEVEL GEARING—LONG WEAR AND NO BREAKAGE

FOR CEMENT MILLS AND GYRATORY CRUSHERS

RENEWABLE POINT DIPPER TEETH (Pat'd)

REVOLVING SCREENS

EDGAR ALLEN AMERICAN MANGANESE STEEL CO.

Works—Chicago Heights, Ill.; New Castle, Del.
General Office—McCormick Building, Chicago, Ill.
Eastern Sales Office—New Castle, Del.

TRADE MARK.

PERMANENT and THOROUGH

Water-proofing of Cement Work

results from the use of

Maumee Compound

SPECIFICATIONS AND SAMPLES ON REQUEST

The Maumee Chemical Co.

403 ST. CLAIR BUILDING

TOLEDO, O.

Tell 'em you saw it in ROCK PRODUCTS

Concrete

National Association of Cement Users

Meets Annually.

OFFICERS

Richard L. Humphrey, Philadelphia.....President
E. D. Boyer, Catasaqua, Pa.....1st Vice-President
Arthur N. Talbot, Champaign.....2nd Vice-President
E. S. Larned, Boston, Mass.....3rd Vice-President
Ira H. Woolson, New York, N. Y.....4th Vice-President
E. E. Krauss, Philadelphia, Pa.....Secretary
H. C. Turner, New York.....Treasurer
P. S. Hudson, Louisville, Ky.—Common Building Blocks and Cement Products.
H. S. Doyle, Chicago—Exhibition.
W. H. Ham, Boston, Mass.—Insurance.
A. E. Lindau, St. Louis, Mo.—Reinforced Concrete Building By-Laws.
C. W. Boynton, Chicago—Roadway, Sidewalks and Floors.
L. C. Wason, Boston,—Treatment of Concrete Surfaces.
R. P. Miller, New York—Fire-proofing.
Robert A. Cummings, Pittsburg, Pa.—Measuring Concrete.
Peter Gillespie, Toronto, Canada—Nomenclature.
Sanford E. Thompson, Newton Highlands, Mass.—Specifications and Methods of Tests for Concrete Materials.
Logan Waller Page, Washington D. C.—Education.

REMEMBER THE DATES OF THE THREE GREAT CEMENT SHOWS:

New York—Madison Square Garden, January 29-February 3, 1912.

Chicago—Coliseum, February 21-28, 1912.

Kansas City—Convention Hall, March 14-21, 1912.

NEBRASKA CEMENT USERS' CONVENTION.

In previous issues of ROCK PRODUCTS we have heralded the coming Mid-West Cement Exposition to be held Feb. 5-10 under the auspices of the Nebraska Cement Users' Association. The exhibitions of that organization have always been attended with great success—financially, educationally and socially—and are regarded as one of the chief factors which contribute to the marvelous development of the great state of Nebraska.

That the forthcoming show will be in every respect the momentous event its predecessors have always been is attested to by the numerous applications for space being received by Secretary Peter Palmer, of Oakland, Neb., and the amount of publicity being given the show. The degree of enthusiasm with which the arrangements are being entered into would indicate that this will be the greatest exposition yet held by the association.

As heretofore recorded, the exhibition will be held in the spacious Omaha Auditorium, Omaha, Neb., and prospectuses and plats of the space thereat have been sent out to the trade. Every effort has been made to eliminate small errors and difficulties of whatever nature. Chairs, tables and lockers will be provided for the convenience of the exhibitors without extra charge, and those requiring power for machinery will be furnished with an electric motor which may be wired at small expense.

Those desiring further information should communicate with Secretary Peter Palmer, or President H. C. McCord, of Columbus, Neb., who will gladly furnish same.

The Orvis Supply Company has been incorporated at Seattle, Wash., with a capital stock of $6,000, by D. E. Orvis, J. P. Weter and F. Roberts, to deal in lumber, lime, cement, etc.

The Indestructible Concrete Construction Company has been incorporated at San Francisco, with a capital stock of $200,000, by A. B. Bennison, J. T. Cochran and H. M. McQueen.

The Raymond Concrete Pile Company of New York and Chicago has been awarded the contract for placing the Raymond concrete piles and reinforced concrete foundations for the addition to the foundry buildings of the Titan Steel Castings Company at the foot of Chapel street, Newark, N. J. Charles W. Guttzeit is general manager.

Harry Holmes, engineer and cement contractor of Macomb, Ill., and Miss Frank Carstens, of Macomb, were married December 25 in that city.

NEW YORK

Cement Show Soon to Open an Established Institution in the East to Advance the Common Cause.

The opening of the New York Cement Show is drawing near and you will just about have time to read ROCK PRODUCTS, pack your suit case, kiss the wife and children and get away.

The New York cement show, the second one, will capture the East by storm, just as the first one did, and this is the reason. Listen:

Even Chicago admits for the sake of the show that New York is the home of the biggest projects in the entire country. That is why Chicago took a show there. Everything worth while theatrically originates in New York, but in this instance it remained for Chicago to take to the eastern metropolis an annual exhibition that now is firmly intrenched there.

It is perhaps unfortunate that there is such a centralization of engineering talent in New York, rather than a location more dispersed through the country and at the strategic points; but since it is so, there should be the same opportunities given to engineers, contractors and those interested in their work for study of the advance in the art, for interchange of ideas and for the buying of equipment as has been afforded for many years to the Chicago and mid-West engineer and contractor. The shows have proven their merit and justified their expense in each of four previous Chicago exhibitions, and the same cordial reception that was accorded to the early Chicago shows was evidenced at the venture last year at New York. But today the New York cement show is an established fact, a known factor in the broadening of the uses of cement, in the spreading of the facts as to the relative cheapness and permanency of concrete over other materials, and in the best methods for the handling of cement and concrete products.

The introduction of the show in New York was due not to the New York engineers' lesser but rather to their greater need, to their satisfaction with present, well-developed machinery and methods, and their unwillingness to recognize that Westerners were also developing the industry and that a free interchange of ideas was sure to prove of value to each.

As a matter of fact, concrete construction is more common in the East than in the middle West, and yet there promises to be a reversal, an outstripping in point of percentage of concrete buildings to those of other materials, unless there are material gains in the near future. The fact that Chicago leads the cities of the United States in the total number of concrete structures erected, as well as in point of their cost, tells in a word the local effect of the four past cement shows on building operations. What is true of Chicago is true to a great extent, of all the middle West. Yet the early start of the eastern work and their magnitude as a whole still give the East the preponderance of volume of building in concrete.

Every change must come through education, through an effort on the part of far-sighted pioneers to show the benefits of change from customary procedure. This has been true of cement in its replacement of less economical and less efficient materials of construction. It is still true of the newer appliances for the utilization of cement and its decoration. We are still in an age of experimentation, and until methods are standardized and materials more perfectly understood, there must be this publicity or education in order to bring with the greatest despatch the findings of investigators before those who may have use for such new methods or appliances. The cement shows are the greatest educational medium of the industrial world, next, perhaps, to the trade and engineering papers. It is only by taking advantage of every opportunity offered that modern business conditions are successfully met, and the engineering and contracting profession are fortunate in having prepared for their inspection and study the hundreds of exhibits that will make up the cement shows.

But the shows have a broader appeal, and perhaps their effect is equally felt by those who do not attend in person but who have suggestions made to them by those who have been able to attend. They profit at second hand by the lessons of the shows. Dealers in building supplies can make the local work of contractors more efficient if they will but study conditions, make helpful, constructive criticism of methods of work, and endeavor to institute themselves as bureaus of information on construction matters.

In some small towns where there are no contractors, dealers are renting out concrete mixers at $1.00 per hour and furnishing a man to operate the machine at slight extra expense. The closer the dealer can be to the contracting operations in his town, the closer he will be to profits. If he can be a real help to his contractor customers, or if he can make an actual business connection with such interests, he has eliminated a certain amount of competition and placed his sales on a surer footing. But for this he must be posted, must not consider his duties to end with the delivery of materials, but must make himself a master of the trades covered in such operations. He need not be a skilled mechanic, yet the more intimate his acquaintance with actual work the better will he be able to advise and assist. Dealers who have realized the possibilities in this line have been among the most interested visitors at the cement shows. They have taken home to less progressive workers the best of the year's offerings. A special tool may make a strong appeal—or it may be a gravel washer. The shows are a mine of information to the man who attends with his eyes open.

There is no better time to visit New York than the present, and many will find it pleasant to make the cement show week a combination pleasure and business trip.

WINTER CONCRETE WORK.

In the winter many factory managers and mill agents are confronted with the fact that they must have an increased space to handle a larger factory production. Often this extension is deferred until the spring, as from bitter experience they are aware of the uncertainty of completion of mill constructed buildings, due to the slow deliveries of materials, and do not consider reinforced concrete, either on account of its higher first cost or doubt as to the safety of construction under cold weather conditions. Buildings with steel frames are not considered, as very few factories are built of this design nowadays.

Very often factory managers will incline to mill construction on account of the lower first cost, while in ultimate cost, considering depreciation, insurance, interest, and vibration, with its resultant wear on machines, reinforced concrete is cheaper in almost every instance. In winter time concrete work will average from 6 to 10 per cent more than the cost of work done in warm weather, and mill construction will cost from 4 to 8 per cent more, but the early occupancy of the concrete building more than offsets the extra cost of concreting in winter, while with mill construction there is absolutely no surety of the completion of the building, four to six months being often taken to finish a building that should be put up in three months.

Reinforced concrete work that has been executed in the coldest weather is just as sound as summer work, provided proper precautions are taken. In New England, with its severe winters, for the last eighteen years a prominent contracting firm in Boston, the Aberthaw Construction Company, have successfully carried through three or four jobs each year. This company is willing to guarantee their concrete work under the most adverse cold weather conditions.

The principal points of winter concrete work consist in heating the sand, stone, and water before putting the same in the mixer. The cement is not heated, as its setting is hastened to too great a degree. Salt is sometimes mixed with the concrete in the proportion of two pounds of salt to each bag of cement. Of course, all snow is removed from the forms by a steam jet and the whole building as it goes up is enclosed floor by floor with canvas until the concrete is set, and salamanders burning coke are placed underneath all freshly poured concrete floors and kept there until the concrete is thoroughly set. In this way the interior of the building is kept about 30 degrees above that of the air outside. The tops of the concrete floors which cannot be enclosed with canvas are covered with about 12 inches of hay or straw, the latter being sometimes sprinkled with salt.

On account of the speed and certainty of erection, together with its numberless known advantages, it seems that reinforced concrete construction in winter will become more and more adopted by factory owners when it is realized that with experienced contractors the soundness of the structure is just as good as if it had been erected in the summer time.

The Brik-Blox Architectural Concrete Company, of East Orange, N. J., has been incorporated to manufacture brik-blox, multi brick units, brick tilings, concrete, etc., with a capital stock of $125,000. The incorporators are: F. W. Macquestion, East Orange, N. J., E. Martin, Long Island City, N. Y., and F. T. Ellithorpe, East Orange, N. J.

IOWA SHOW

Convention and Exhibition of the State Association Held at Sioux City Successful in Spite of Frigidity.

The eighth annual Convention and Show of the Iowa Association of Cement Users was held at Sioux City, Iowa, January 10-11-12. It was considered the most unfortunate circumstance that the most severe weather in the history of Sioux City came upon that community while the convention was in session, and the result was that the attendance was not what it would have been had better conditions prevailed. In fact, a number of the exhibitors were unable to get their exhibits, which were stalled in the snow on various railroad lines leading to Sioux City.

The show was held in the Auditorium, while the sessions of the convention were held in the Old Council Chamber in the City Hall. In justice to the members of the association, it may be said that in spite of all the conditions against them, a fine display of enthusiasm, characteristic of the western spirit, was evident throughout the three days.

The convention was opened in the City Hall, Wednesday evening, the 10th, by Vice President H. H. Dean, of Payne, Iowa, who presided in the absence of President J. W. Budd. Mayor A. A. Smith of Sioux City welcomed the cement men on behalf of the citizens, saying that all the citizens joined in a hearty welcome to the cement men, and from his perusal of the program, he believed that the session will be a most profitable one. He said he was friendly to the use of concrete, and he realized its importance as the coming building material. Mr. Dean responded, thanking the mayor and the city for their hearty welcome, and the program as pre-arranged was then carried out.

The first paper on the list was that by Charles E. Sims, manager of Concrete Tile Company, of Worthington, Minn. Mr. Sims is also secretary of the Interstate Tile Association. His paper will be published later in ROCK PRODUCTS in full. He said that in the State of Iowa, in order to make available all the land now under water or in swamps, four hundred and fifty million drain tiles will be used. Most of this country is included in a V-shape tract, with Des Moines at the point, and running northwest and northeast. At the present time, he said, there are cement tile factories in 19 counties, with a production of 30,900,000 tile for the 42 factories in these counties, and the value of the product is $3,000,000. The amount of cement used was 250,000 barrels in 1911, and as for the quality of these tile, he had yet to learn of an instance of disintegration. In view of the controversy that has been waged for some time between clay tile and cement tile, this statement was considered of special significance. President Dean invited discussion on the paper and incidentally said that there are 50,000 acres in southwestern Iowa to be tiled in the immediate future.

Professor A. Marston, of Iowa State College, had been expected to present a paper on the failures of drain tile in Iowa and their prevention, but he could not be present. However, A. O. Anderson, of Ames, Iowa, connected with the testing laboratory, presented some interesting facts on this subject. He said that it had been found in a general way from the tests made that concrete tile was fully as serviceable as clay tile. "If you soak cement tile in water," he said, "it will be found that it is weaker than one that is not so treated." He told of a number of instances where tile had failed on account of the load of earth or fill after the trench in which they were laid had been filled in. It was brought out in the discussion, also, that tile always failed at the sides, due to the arch action and lack of a solid holding abutment at the sides.

S. H. Brown, president of the Hawarden & Lake View Sand & Gravel Co., Lake View, Iowa, gave a talk on washing of sand and gravel for the market. The plant of the Hawarden company is on the Sioux river, from which its product is taken by clam shell buckets, conveyed on a cable, and dumped into the cars. His talk ended the session of the evening, and adjournment was taken until Thursday morning.

There was a better attendance Thursday morning, when M. L. King, experimentalist in agricultural engineering, Ames, Iowa, gave an illustrated talk on cement silo construction. He had pictures showing the various types of silos, and he advocated this form of construction as the most effective in preserving the ensilage. Concrete silos are becoming popular in Iowa, and a number of them have been built during the year and many more are promised for the near future.

W. L. Steel, an architect of Sioux City, Iowa, gave a very excellent paper on cement and concrete, and their architectural expression. He advocated a sane use of cement, and deprecated the efforts that have been made to imitate other materials with it. The gist of his remarks was that cement should stand for itself and not seek to imitate something else. He spoke especially of the concrete block and the efforts that have been made to imitate the rock face. He declared that the time was at hand when cement would come into its own; being a material that is plastic and easily handled, there was no reason why it should not be generally used by architects. The paper in full will be found in another part of this issue of ROCK PRODUCTS.

P. P. Comoli, of Sioux City, gave a talk on the construction of cement plaster houses. He demonstrated that a cement plaster house is the most economical structure, requiring little or no repair and no paint, factors that are most desirable in a house. His talk was most helpful to those who are interested in that subject.

Smoker and Luncheon.

Thursday evening the Commercial Club, made up of the live business men of the city, gave a smoker and luncheon to those in attendance at the convention, and it was an event that was most enjoyable.

F. P. WILSON, PRESIDENT IOWA ASSOCIATION OF CEMENT USERS.

The herpicide degree was conferred on "Lou" Thayer, of Minneapolis, who volunteered to be the goat.

Friday morning the first thing in order was the reports of the committees and election of officers. Resolutions were adopted thanking all the officials of Sioux City and the officers of the association and the newspapers for their kindness in the treatment of the visitors, and the nominating committee reported the officers as follows, and they were unanimously elected:

President, F. P. Wilson, Mason City, Iowa.
First vice-president, H. H. Dean, Glenwood, Iowa.
Second vice-president, P. H. Atwood, Armstrong, Iowa.
Secretary, A. O. Anderson, Ames, Iowa.
Treasurer, K. C. Gaynor, Sioux City, Iowa.

Mr. Wilson, city engineer of Mason City, gave a description of the concrete pavements that have been laid in that municipality under his supervision. He said, so far as he was concerned, the concrete pavement has proved most satisfactory. A number of miles of these streets have been laid, and the people are much pleased with them and more are to be put down.

The Show.

In the show, there were thirty exhibitors. The machinery displayed was fairly representative of the different lines used in concrete work and competent demonstrators were on hand to show how things were done.

The extremely low temperature, 40 degrees below zero in the shade, kept many from coming who would otherwise have availed themselves of the opportunity to see a show of this kind. All of the citizens in Sioux City unite in apologizing for this disgraceful weather; they said it was not a common thing for Sioux City, in fact, it was very unusual.

Mr. Wilson, who was elected president, is well known to the rank and file of the industry. What he has accomplished at Mason City in the line of concrete pavements is well known. In fact, the specifications for the work he did there are regarded as authority for that class of work everywhere.

Notes of the Show.

L. B. Stewart was there in his shirt sleeves working for Medusa. He had a fine display.

"Chit" and Murray Jones, the Lehigh's crack team, stayed with the show each day till the janitor chased them out.

A. C. Wilby and L. A. Bissonnette, of the Universal, were on hand and seemed to enjoy the 40-below-freezo temperature.

Walter Smith, the Atlas man, came up from his home at Fort Dodge to see the wheels go round and said he was glad he came.

H. C. McCord and Peter Palmer, president and secretary respectively of the Nebraska Cement Users' Association, were there to see that none gets away from their show, which will open February 4.

Exhibitors.

Anchor Concrete Stone Co., Rock Rapids, Ia.; Ashland Steel Range & Mfg Co., Ashland, Ohio; Cement Era, Chicago, Ill.; Cement Machine Co., Guthrie Center, Ia.; Cement Record, Kansas City, Mo.; Cement World, Chicago, Ill.; G. C. Christopher & Son, Wichita, Kan.; Engineering Experiment Station, Ames, Ia.; Eureka Stone & Ore Crusher Co., Cedar Rapids, Ia.; H. T. Frost, Vivian, S. D.; Haakinson & Beaty Co., Sioux City, Ia.; Haas Post Machine Co., York, Neb.; Hawarden Sand & Gravel Co., Hawarden, Ia.; Hobbs Concrete Machinery Co., Detroit, Mich.; Iowa Foundry Co., Sioux City, Ia.; John J. Keefe Co., Sioux City, Ia.; Kelly Mfg. Co., Waterloo, Ia.; Kempf & Whitaker, Goehner, Neb.; L. T. Kenney, Hawarden, Ia.; Kneedler, Couch & Hanson, Sioux City, Ia.; Kramer Automatic Tamper Co., Peoria, Ill.; Lehigh Portland Cement Co., Chicago, Ill.; E. L. Martin, Woodburn, Ia.; George J. Miller, Doon, Ia.; Monarch Mfg. Co., Onawa, Ia., Northfield Iron Co., Northfield, Minn.; Peerless Brick Machine Co., Minneapolis, Minn.; Sioux City Cement Machinery Co., Sioux City, Ia.; Universal Crusher Co., Cedar Rapids, Ia.; C. S. Wert, Kendallville, Ind.

In a report submitted to the Commercial Club of Joplin, Mo., January 3, Mr. O. M. Odell strongly recommended the use of cement pavement constructed of mining sand and gravel. Mr. Odell said Wichita, Kan., has constructed a great deal of concrete pavement, at a cost of 80 cents a square yard, after importing the sand and gravel used, and that the same kind of pavement could be built in Joplin for 50 to 60 cents a square yard. He recounted the success met by Fredonia and Kansas City with the use of concrete pavement, and read letters from city engineers of these cities bearing on this subject.

Resident Engineer C. J. Skinner, of the Union Terminal Railway Company, Wichita, Kan., estimates that about 20,000 barrels of cement, 466 cars of crushed rock and 233 cars of sand will be used in the construction of the new depot and viaduct to be built by that company.

The Pierson Cement Block Company, Orange, N. J., has been incorporated with capital stock of $10,000, to manufacture cement blocks, building materials, etc. The incorporators are: J. Willis Pierson; M. DeForest Soverel and Wm. E. Hampson, of East Orange, N. J.

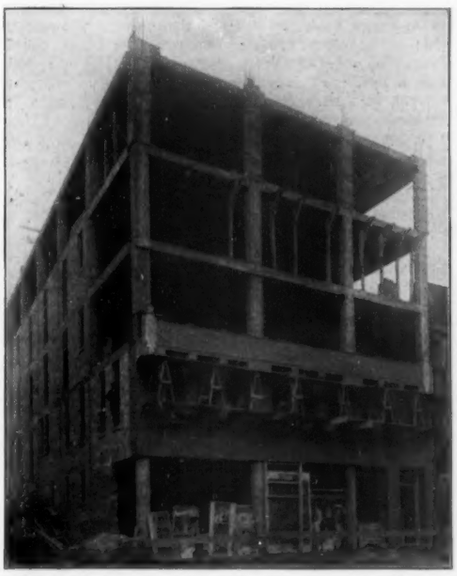
The Rockford Block & Silo Company, Rockford, Ill., has been incorporated with capital stock of $2,500, to manufacture and deal in concrete and cement products. The incorporators are: H. S. Hicks, James Buxton and Charles Ott.

E. B. Bingham, J. M. Patridge and W. B. Cherrington, of Wellston, W. Va., have organized a company which will build a brick and cement plant near Wellston this year. They propose to build a railroad from Sandusky, Ohio, to take out the product, and the brick company will be known as the International Mining & Manufacturing Company.

STAG HOTEL

Chicago Structural Tile and Barton Spiderweb Reinforced Concrete Systems Combined With Most Effective Result.

For durability of construction and simplicity of design there is no building in the middle west that will compare with the McGuire hotel, on Halsted street, near Adams, in Chicago, now receiving its finishing touches. It stands in the midst of a district of old style inflammable buildings and is itself



McGUIRE HOTEL IN COURSE OF CONSTRUCTION.

a conspicuous example of modern sane architectural ideas and methods.

Fire might sweep the entire area for miles around it and this structure would be seen afterward standing as a lone sentinel, uninjured and unscathed.

It is a stag hotel, and the purpose has been to safeguard the lives of the men who will be its guests. The first floor will be used as a store, while four floors above will be devoted to the hotel enterprise. There are 435 rooms. The building is designed according to the Barton System of Spiderweb Reinforcement, while the curtain walls and partitions are of concrete tile furnished by the Chicago Structural Tile Company. The employment of the Barton System in connection with the concrete tile, has resulted in the creation of a structure of absorbing interest to builders, for the maximum of utility and safety, together with low cost, has been attained here.

The frontage of the building is fifty feet, while the depth is 111 feet, and it rests on a cantilever footing, assuring its stability and freedom from settling. The building has a handsome front of pressed brick and stone, while the two sides and the rear show the regular cut joint surface of the tile and the frame of the reinforced concrete.

The building is designed for a live load of 100 pounds on the upper floors and 225 pounds on the first floor. The panels are 17x18 feet and the columns start twenty-four inches in diameter, are twenty inches on the first floor and eighteen inches above. The second floor has a 50x50 foot lobby, with offices adjoining. The balance of the second floor and all the other floors are divided into rooms for guests. The lobby and office have tile floors, while maple flooring over the concrete is used on the other floors. The doors are of birch. The maple flooring and the doors are the only inflammable parts of the building. Steel sash have been used on the sides and the rear, but not in the front windows. All the windows are glazed with wire glass. The cost of the building without furnishings was $45,000. With heating, lighting and all toilet facilities the cost will be in the neighborhood of $80,000. The building itself will thus cost $1.62 per square foot of floor area, which figure is remarkably small, approximating the cost per square foot obtained in large factory buildings.

Francis M. Barton, inventor of the Barton Spiderweb System of Reinforced Concrete, has contributed much to the industry and to the cause of cement by the market success with which his system has been adapted to varied requirements of building construction. This latest adaptation of it to the use of concrete tile is regarded as a crowning achievement.

"I am enthusiastic about the use of this tile," he said, "on account of the fact that outside walls can be plastered directly on the tile, giving two air spaces. The usual method is to use steel channels and metal lath, whose life is not more than fifteen years, while plastering on an unfurred brick wall would mean constant dampness. Further, in designing the heating plant of this building I used, or allowed for only 60 per cent of the amount of radiation ordinarily estimated for a brick-enclosed wall, and I find this assumption was soundly based, as the building is very easily heated. All the chimneys are enclosed with concrete tile and all the interior partitions are of that material. The window jambs are specially formed concrete blocks, which act in conjunction with the frame as an air stop, and, in connection with the plaster, makes an air-tight junction between the wall and the frame. The exterior surface, which shows columns and spandrils of block, presents a pleasing appearance, suggestive of strength and durability."

This building is the third five-story building designed by Francis M. Barton for the owner, the prior being a structure of the Barton Spiderweb concrete construction with solid brick walls. On account of the difficulty encountered in keeping the building warm and the trouble with condensation, the tile wall was used in the McGuire structure, with the result that the hotel now nearly ready for occupancy is as near perfect as anything of human devising can be.

Thomas D. McGuire, owner of the new hotel, is committed to reinforced concrete without reserve. "When I was planning to build a hotel," he said, "I investigated every form of construction I could get at which would be adapted for a hotel. Nothing appealed to me like the Barton Spiderweb System and the structural tile. I feel that I have an absolutely fireproof building and one in which my patrons will be safe. You know a hotel man bears a great responsibility. With four or five hundred men asleep under your roof you feel that you are responsible for their safety. I am satisfied that I have a building of the most perfect construction at a cost much lower than I would have of any other material. You can put me down for the Barton Spiderweb System and the structural tile every time. I am for 'em."

McGUIRE HOTEL COMPLETED.

LOUISVILLE CONCRETE NEWS.

Louisville, Ky., Jan. 18.—Old Jack Frost is binding the concrete workers of Louisville and the Bluegrass pretty tightly these days, but in defiance of the hoary tyrant the block manufacturers and operators in monolithic construction are managing to get in some good work during the few hours each day when the sun shines with sufficient strength to permit of building work.

There is an unusually satisfactory amount of concrete work in progress throughout Kentucky, considering the season of the year. Of course, practically all the block plants are running on reduced schedules and monolithic work is being set very cautiously during the cold weather, but the work is there, nevertheless. The number of jobs now in course of erection stands out much stronger than similar records for past winters, and there is no doubt that concrete has a firmer hold on the building trade of the Ohio valley at present than it ever has had.

The Central Concrete Construction Company, according to Manager Mazzoni, has absolutely no complaint to make. The most important job now being handled by the East End concrete workers is the Arcade building, on the southwest corner of Third avenue and Walnut street. The structure is being made of reinforced concrete and contains five commodious stores joined by a single entranceway.

Sam L. Robertson, the well-known West End concrete worker, is now figuring in his first Legislative session at Frankfort, Ky. Mr. Robertson was elected representative in the General Assembly in the recent November landslide which swept Kentucky Democratic, and has closed his concrete jobs temporarily during the cold weather while he is in attendance with the Legislature in the Bluegrass capital.

The Tycrete Concrete Construction Company is doing a fine business in standard blocks and concrete specialties despite the cold snap. The Tycrete plant at Fourteenth and Oak streets has been fully equipped with individual motor power and plans are under way for the installation of a new hydraulic press, of 1,200-block capacity, as soon as the active selling season opens in spring. J. W. Yenawine, formerly a prominent figure in the Louisville wholesale millinery trade, is now an officer of the new concrete company.

The Culley Cement Block Company is running upon a very easy schedule at present, but is preparing to improve and extend its plant in preparation for a fine season in spring. "Although we are temporarily tied up by the weather, we have the satisfaction of recording a substantial improvement in business for 1911 and will probably overreach that figure this year," said John S. Culley.

In a recent important industrial section published by one of the leading newspapers of Louisville, Dennis H. Long, president of the Unit Brick & Tile Company, detailed the advantages of his cement product in an article entitled "The Success of Unit Brick as a Building Material." In his story of the upbuilding of the unit brick industry, Mr. Long paid tribute to its growth in the consideration that Kentuckians are famous for thinking twice before they enter into any project. The unit line, according to Mr. Long, typifies concrete in its best and most available form, for the mix when poured into the moulds is purposely sloppy so that a fine-grained hollow block, impervious to water and capable of resisting heat, is formed.

The Vincennes Bridge Company is now laying the iron superstructure upon the new bridge at Hopkinsville, Ky., the big concrete piers of the structure having been finished last week. The bridge will be ready for use in the very near future, its erection having been attended by unusually favorable weather.

NOVEL CONCRETE POSTS.

Concrete light posts are to be erected by the park board of Fort Worth, Tex., in Forest park during the coming year. The new posts will burn gas and will be both durable and pleasing to the eye. Flower boxes will be placed on top of the shafts and water pipes will run through the interior as well as gas pipe. The plan of the posts originated with Superintendent Vinnedge and they will be a picturesque feature of the park. The combination gas light by night and a flower fountain by day will not be found in even the metropolitan centers.

A test has been made of a monster reinforced concrete beam in the auditorium of the new high school building at Waco, Tex., the structure now nearing completion. It was made to carry a weight of 52,500 pounds for a period of fifteen hours and the test was most satisfactory, being made under the direction of Scott, Pearson & Dean of that city, supervising architects, and Professor Giesecke, of the A. & M. College. Not a crack could be found in the beam when the ponderous weight was withdrawn.

The Rockford Block and Silo Company, of Rockford, Ill., has been incorporated with a capital stock of $2,500 to manufacture and deal in concrete and cement products. The incorporators are H. S. Hicks, James Buxton and Charles Ott.

UNUSUAL FEATURES.

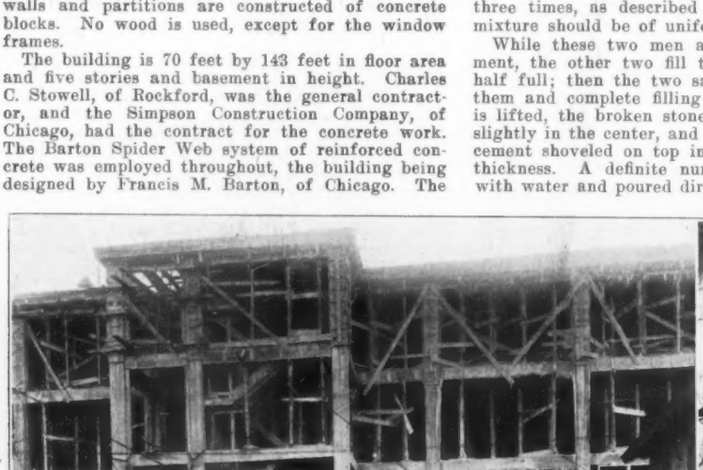
In the Designing and Construction of the Woodward Building, Making It Interesting to All.

The structure here shown is the E. E. Woodward building at Rockford, Ill. The building is particularly notable on account of the unusual features connected with its design. It is a combination of reinforced concrete and block construction. The entire frame, including columns, floors and stairways, is of reinforced concrete, while the walls and partitions are constructed of concrete blocks. No wood is used, except for the window frames.

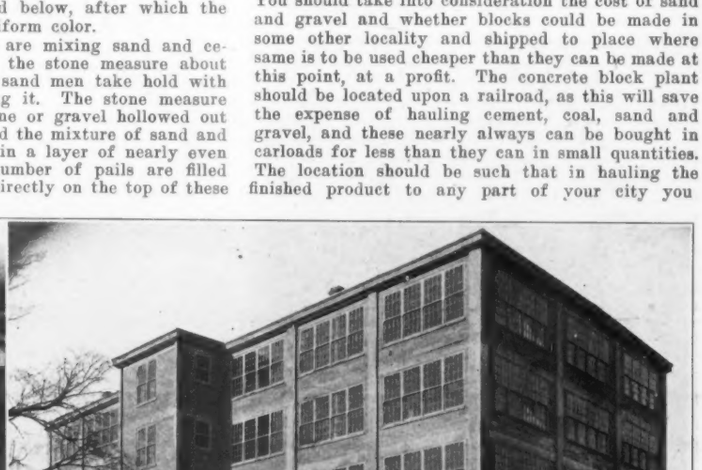
The building is 70 feet by 143 feet in floor area and five stories and basement in height. Charles C. Stowell, of Rockford, was the general contractor, and the Simpson Construction Company, of Chicago, had the contract for the concrete work. The Barton Spider Web system of reinforced concrete was employed throughout, the building being designed by Francis M. Barton, of Chicago. The unique feature about the spider web system consists in the fact that, instead of modifying the floor spans by the use of beams and girders, it is designed to eliminate all beams and girders and shorten the actual span of floor slabs by the use of trussed column heads 8 feet in diameter, thus reducing the actual span by 8 feet. In this instance the columns are 23 feet on centers, but the actual span of floor slabs is only 15 feet. This system also produces an entirely flat ceiling, the bell-shaped head being only three feet six inches in diameter where they meet the ceiling. This greatly improves the lighting conditions as well as the general appearance of the building, and facilitates the attachment of shaft hangers and sprinkling devices.

A rather difficult engineering problem was presented by this building. It was desired to utilize certain space above the river bed without presenting any obstruction at the surface. An addition, five stories in height, 24 feet in width and projecting 12 feet beyond the main building, was accordingly constructed, which was supported entirely by two reinforced concrete brackets or cantilevers.

The blocks used in the walls were made on the site in a local machine. The blocks carry none of the load of the building and contents except their own weight. The mixture of the concrete throughout the building was one part Medusa cement, two and a half parts of sand and four parts of gravel. A total of 4,000 barrels of Medusa was used. The Ransom mixer was employed.



SHOWING COMBINED REINFORCED CONCRETE AND BLOCK CONSTRUCTION.



THE COMPLETED STRUCTURE.

The contract for placing approximately 1,500 Raymond concrete piles for the foundations of the Webb Terminal Warehouse Building to be erected at Walnut street and Delaware avenue, Philadelphia, has been awarded to the Raymond Concrete Pile Company, of New York and Chicago; Irwin & Leighton, general contractors.

HOW TO MIX CONCRETE BY HAND.

Sanford E. Thompson gives the following plan for effective and economical hand mixing of concrete. Assume, he says, a gang of four men to wheel and mix the concrete, with two other men to look after the placing and ramming.

When starting a batch, two mixers shovel or wheel sand into the measuring box or barrel—which should have no bottom or top—level it and lift off the measure, leveling the sand still further if necessary. They then empty the cement on top of the sand, level it to a layer of even thickness, and turn the dry sand and cement with shovels three times, as described below, after which the mixture should be of uniform color.

While these two men are mixing sand and cement, the other two fill the stone measure about half full; then the two sand men take hold with them and complete filling it. The stone measure is lifted, the broken stone or gravel hollowed out slightly in the center, and the mixture of sand and cement shoveled on top in a layer of nearly even thickness. A definite number of pails are filled with water and poured directly on the top of these layers, greater uniformity being thus attained than by adding the water directly from a hose. After soaking it slightly, the mass is ready for turning.

Two men, A and B, with square-pointed shovels, stand facing each other at one end of the pile to be turned, one working right-handed and the other left-handed. Each man pushes his shovel along the platform under the pile, lifts the shoveful, turns with it, and then, turning the shovel completely over and with a spreading motion drawing the shovel toward himself, deposits the material about two feet from its original position. Repetitions of this operation will form a flat ridge of the material, on a line with the pile as it originally lay, and flat enough so that the stones will not roll. As soon as—but not before—a single ridge is complete, two other men, C and D, should start upon this ridge, turning the materials for the second time, as shown in the illustration, and forming as before a flat ridge and finally a level pile, which gradually replaces the last. A third mixing is accomplished in a similar way.

After the material has been turned twice, as described, and as soon as the third turning has been commenced, two of the mixers who have finished turning may load the concrete into barrows and wheel to place. They should fill their own barrows and, after the mass has been completely turned for the third time by the other two men, the latter should start filling the stone measure for the next batch.

The American Concrete Company, of Milwaukee, has been incorporated with a capital stock of $5,000 by W. J. Morgan, George Widule and George Mensing.

Alderman Herman Kutzke, of Portage, Wis., proprietor of the Kutzke Cement Works, is erecting a new plant, which he will equip with modern machinery for the manufacture of cement blocks and columns.

CONCRETE BLOCKS.

Fundamental Principle of Good Block Making Presented by a Practical Man.

By F. S. Phipps, Chicago, Ill.

The first and one of the important conditions of good block making, is the selection of the location for the plant. In starting a plant one must be sure that there will be a demand, or that a demand can be created for the use of the manufactured product. You should take into consideration the cost of sand and gravel and whether blocks could be made in some other locality and shipped to place where same is to be used cheaper than they can be made at this point, at a profit. The concrete block plant should be located upon a railroad, as this will save the expense of hauling cement, coal, sand and gravel, and these nearly always can be bought in carloads for less than they can in small quantities. The location should be such that in hauling the finished product to any part of your city you would have good roads. If your sand and gravel comes from banks near by, you would still have a saving on your cement and coal by being located on a railroad track, and when shipping out cement products you would save the expense of hauling same to cars. It is well to bear in mind that a location that will afford good advertising, or in other words a location that is passed by a great many people, is a great advantage. If your plant is easily reached and not stuck away in some out-of-the-way district, it is much easier to get the architect, contract and builder to go and see your product. You must figure that you must advertise, the same as any other business, to grow and receive your share of the trade.

In starting a plant you must study the wants of your community and the amount of business that you will probably be able to do. You must be acquainted with the cement block business or be able to employ someone who is, to be able to start in the right direction. You must remember that concrete blocks alone will not make a profitable business. After you have studied the above points and have come to some conclusion as to the amount of product that you will want to turn out, then you can take into consideration the amount of capital it will take to run the business. You should have quite a little working capital after your plant is installed and paid for. Do not locate your plant in low ground unless you are able to fill the same so that water will not stand in your yard, as generally your heaviest business is done in the factory in bad weather, when you are unable to do outside work, and in low, soft ground it is almost impossible to haul a reasonably good load out of the yard and teaming is one of your biggest expenses. In buying your cement, be sure and buy a good Portland cement that will work under all conditions and produce a good material. The care of the cement is an important factor in your business. It should be stored in a dry storage house, which I will describe later.

Sand and gravel or crushed stone—A great deal of care should be taken in the selection of these materials. Sand for concrete block work should be reasonably coarse and sharp; it should be free from all loam or as nearly so as it is possible to obtain. The gravel should be of a good grade and clean, the same as the sand. If necessary to obtain good results, these materials should be washed. If crushed stone is used it must be free from dust. To obtain good results in concrete blocks your gravel and crushed stone should not run larger than from a half to three-quarters inch and your proportions should be as nearly accurate as can be obtained under your conditions. Under no circumstances should you guess at the amount of your material, but in all cases measure them, and if your proportions are right you will always obtain the same finished product and your blocks will always be uniform in color and strength.

After your location is obtained and your sand and gravel or crushed rock are found to be suitable for the work, and the capital, which is the most important side of the business, you are then ready to begin the erection of a proper building and to purchase machinery and equipment for your business. There are many different ways to erect a building suitable for the concrete block business, but many of them are built entirely too small, and are not equipped with sufficient machinery to manufacture cement products at a saleable cost. I will not go into the size of factory at the present writing or the cost of same, but wish to state that one of your first considerations should be the storage of your cement. The size of this bin or warehouse will depend, of course, upon the output of your factory, but in no case should it have a capacity of less than three hundred barrels, which is two medium size cars. The best factory that can be built is of concrete blocks and the room for the storage of cement should then be stripped with two by fours covered with paper and then sheathed over with inch flooring. The floor should be raised off of the ground, and should be a double floor with an air-space between. The ceiling should be the same; the windows should have extra doors so they can be closed and the room kept dark. The cement should never be piled against the wall. If you will follow these instructions you will have very little waste in cement and few, if any, complaints against the cement manufacturer as to the grade of his cement. You should never unload a car of cement during a rain. In connection with your plant you should have a suitable sized office to transact your business; you should also have a work room, or in other words, a carpenter shop, where your special forms can be made, and a room for special concrete work such as window and door sills, caps and any other special piece of work that can be made without interfering with the running of the rest of your plant. You should have your boiler room in which is installed your boiler for your heating and curing room, also your coal bin and curing rooms enough for two days' run. These should be divided into small rooms that will not exceed a half day's run. Your sand and gravel room should be large enough for a week to ten days' run, and if possible to hold larger quantities for use in the winter months. After you have all these apartments, and your heating plant arranged to heat them all, the question of equipment is an important one. To be able to manufacture concrete blocks and to sell them at a profit, your plant must be properly arranged and your equipment as near perfect as it is possible to get it. There should be conveyors to carry the sand and gravel from the bins to the mixer. The mixer should be of sufficient size so that your material will be well mixed. I found by experience that it should be mixed about three times as long as required by the ordinary mixer, and your proportions should all be measured and not guessed at. When the material is well mixed it should be delivered to a table or chute that will convey it to the concrete block or brick machine. Your block machine should be a machine that is capable of producing a block that has sufficient moisture in it to start crystalization without adding any more moisture.

To produce the best results you should have some kind of a power tamper, as hand tamping is very unsatisfactory, as a man is never able to tamp as well in the evening as in the morning. When the blocks are made they should be loaded up on cars and transferred into the curing rooms and should remain there from thirty to forty-eight hours, when same should be transferred into the yard and put into piles.

In the next article I will dwell upon the size and cost of block plants and the curing of concrete blocks.

The Standard Concrete Machinery Company, Manhattan, N. Y., has been incorporated with a capital stock of $100,000. Incorporators: C. G. Valentine, Sr., H. S. Fowler, New York City; C. G. Little, Plainfield, N. J.

Cisterns

Underground, Built of Concrete, Possess Many Advantages—How to Construct Them by an Easy and Practical Method.

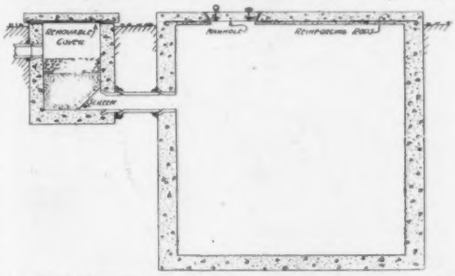
From the viewpoint of the intelligent housekeeper, there are few things more important than an abundant supply of soft water. In the kitchen, laundry and bathroom it means lightening of labor and economy. The ideal soft water is rain water, and the old-time rain barrel, so long an institution in this country, is still extant in some rural districts. It is the purpose here to discuss the ideal "rain barrel," a reservoir unlimited in capacity that may be made indestructible and impervious for all time, something cheap as to first cost and never needing repairs. The perfect reservoir is the underground cistern of concrete.

The first underground cisterns were always prone to leak. In wet weather the ground water seeped in and transformed the soft water into water as hard as that from the well. In dry weather such cisterns were empty. By means of concrete property owners are now able to build their own cisterns that are jointless, watertight and large enough to store an abundance of soft water even in the dryest season.

Concrete cisterns usually consist of two general types—underground and surface cisterns. The choice is dependent upon the amount of space available in the yard. Cisterns on top of the ground will be treated in a later issue.

Construction of Underground Cistern.

Underground cisterns may be built in any shape



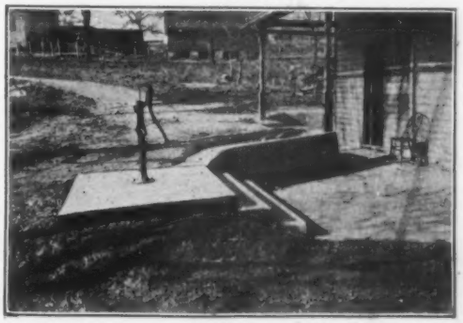
CROSS SECTION CONCRETE CISTERN AND FILLER.

desired. For the same amount of concrete, round cisterns (with a depth equal to the diameter) will hold the most water. However, since round forms are not easy to frame, most cisterns are made square. To illustrate the usual method of building, consider the construction of a cistern 8 by 8 by 8 feet in the clear, with walls 8 inches thick and with a capacity of 121 barrels. Before beginning the work, have all the materials on hand, slightly more than required.

Locate the cistern in the most convenient place. Since the walls are 8 inches thick, lay out the hole 9 feet 4 inches square. The concrete bottom is 6 inches thick. Therefore dig the pit to the depth of 8 feet 6 inches. Since the concrete cover or platform will be 5 inches thick, the top of the cistern will be 5 inches above the ground, which is a desirable feature.

If the earth walls stand firm, only an inside form will be needed; otherwise make a similar form for the outside of the walls. This form should be built (each side separately) previous to digging the pit, so that it may be quickly erected and the cistern finished before a possible shower makes the hole muddy. For siding, use 1-inch boards on 2 by 4-inch uprights spaced 2 feet. As soon as the hole is dug, set up the forms on 6-inch cubes or bricks of concrete, with 1-inch removable wedges between the forms and the bricks. The side wall forms will later support the platform on which the concrete cover will be built; and unless these wedges are used, the forms will bind and be difficult to remove. Join the forms at the corners so that they can be easily taken down after the cistern is finished. Against the earthen walls, and braced to the inside forms, set 1-inch boards, 12 inches wide, so as to prevent dirt from crumbling and falling into the cistern.

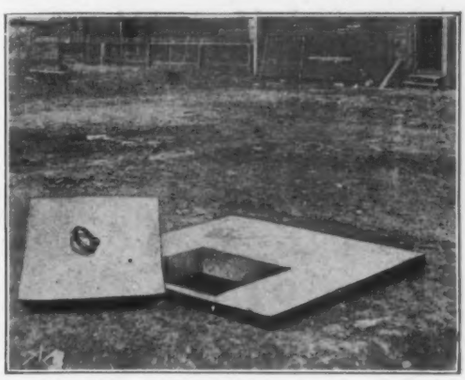
Mix the concrete 1 part Portland cement to 2 parts sand to 4 parts crushed rock. In measuring the quantities, consider 1 bag of cement equal to 1 cubic foot. If gravel is to be used, proportion the concrete 1 part cement to 4 parts clean gravel. For the floor have the concrete just wet enough to flush a little cement mortar to the surface when tamped into place. See that there is an abundance of mortar around the concrete blocks supporting the forms. Immediately begin filling the sidewall forms with concrete mixed mushy wet and placed in 8 to 10-inch layers around the entire cistern. Be careful not to shovel the concrete against the earthen sides as dirt in concrete is liable to make a leaky wall. Do not stop until the forms are filled. At the proper points, insert an overflow opening (if desired) and a sewer pipe connection for the water from the downspout or the filter and the pipe connection for



PUMP SET ON CONCRETE CISTERN PLATFORM.

the pump in the house. This pipe should be carried 3 to 4 feet under ground, out of danger of freezing.

To keep out mice, vermin, scrub-water or filth, every cistern should be covered with a concrete platform reinforced with steel rods. After the concrete walls have been brought to ground level, set a wooden frame around the outside of the cistern so as to hold the concrete for the 5-inch platform. To run water off the finished cistern cover, slope this frame 1 inch in the direction desired. Five inches below the finished top of the cistern cover construct a strong wooden platform of 1-inch boards for flooring. Build this on 2 by 4-inch joists nailed to the uprights of the side forms. This wooden platform will support the concrete cover until it is self-sustaining. To provide for a manhole opening take 1-inch boards 6 inches wide and build a bottomless box 5 inches deep, 2 feet square at the top and 18 inches square at the bottom—outside measurements. Another plan is to have the tinsmith make a round bottomless tin form 5 inches deep, 2 feet in diameter at the top and 18 inches at the bottom, after the pattern of a large dish pan without a bottom. Grease the manhole frame and set it on the platform where the opening to the cistern is desired. An iron manhole frame and cover can also be used. By a similar use of a section of a gas pipe or small drain tile, leave an opening for the pump stock, if an out-door pump is to be used. Around this opening in the soft concrete place bolts (washered) for the pump. To locate the bolts correctly, set them by means of a wooden block in



CONCRETE CISTERN PLATFORM WITH MANHOLE COVER.

which holes have been bored spaced exactly like those in the iron pump base.

Over the entire platform, spread 1 inch of concrete. For reinforcing quickly place on this concrete 10-foot lengths of ⅜-inch iron rods running in both directions (criss-cross) and spaced 1 foot apart. Bend the ends to a hook shape. Strengthen the platform around the manhole opening by placing two rods on each side. Bring the cover to its full thickness by immediately tamping in the remaining 4 inches of concrete. Finish the surface with a wooden float (a trowel) the same as for sidewalks.

If the tin form is used, the manhole cover may be cast at the same time as the remainder of the floor. Reinforce the cover with short length of iron rods laid criss-cross. As a lifting ring for the cover, use half of an old bridle bit or a hitching post ring, the end provided with a knob of twisted wire or with a nut and large washer for holding it firmly in the concrete. If the wooden manhole form is used, carefully remove it after 5 hours. After 3 days build the manhole cover the same as for the tin form, with this exception—place greased paper or cardboard around the edge of the opening to prevent the new concrete from sticking to that of the platform. To make the manhole cover lighter in weight before placing the concrete, spread 1½ inches of wet sand over the wooden platform in the manhole opening and then tamp in the concrete. Take care to place the reinforcing within 1 inch of the bottom of the manhole cover. When the cistern platform is two weeks old, remove the manhole cover and saw an opening in the wooden floor. Descend, knock out the 1-inch wedges under the side-wall forms, take the forms apart and pass them out through the manhole opening.

It is generally advisable to filter rain water. For this purpose provide a filter on the outside of the cistern proper. Construct this filter in the same way as the cistern was built except that the reinforced concrete cover should be loose so that it can be removed. Therefore, mold it on a smooth surface such as a wooden floor, and later put it in place. Make the concrete walls and bottom 6 inches and the cover 4 inches thick. Under most conditions a filter 2 feet square and 3 feet deep in the clear is large enough. Carry the walls a few inches above the surrounding ground. At the filter floor level connect the filter with the cistern by means of a 6 to 8-inch sewer pipe or drain tile laid with carefully cemented mortar joints. Likewise, 1-foot from the top, lay a similar connection for the pipe leading to the downspout. Instead of using a square inside form for the filter, a barrel may be used. In the filter place a galvanized screen of ¼-inch mesh over the pipe opening to the cistern. Fill in 18 inches of coarse charcoal. Cover the charcoal with 6 inches of sand and gravel. Place the slab cover on the filter, and the cistern is ready for use.

Below is given the amount of materials required ;for the cistern and filter. Since the prices given are liberal, by getting quotations from local dealers the cost of the cistern may be found to be less.

The cost estimated is as follows:

Crushed rock, 11 cubic yards	at	$1.10	$12.10
Sand, 5½ cubic yards	at	1.00	5.50
Portland cement, 18 barrels	at	2.50	45.00
Reinforcement (18⅜"x10' rods), 93 lbs.	at	0.02¼	2.10
Total			$64.70

No estimate of the labor is given as the suburban or country dweller can easily build his own cistern with ordinary farm labor.

REENFORCED CONCRETE BUILDINGS IN JAPAN.

A new modern office building has been completed in Yokohama opposite the American consulate general. It was designed by a Japanese architect and is made of and furnished almost exclusively with Japanese products, the most notable exception being an American (Otis) elevator. The reënforced concrete features of this structure are attracting favorable attention among builders. Representatives of the American system of reënforced concrete structural methods are now in this district and are confident of securing satisfactory results. The building is provided with a roof garden.

The Mitsui Bussan Kaisha Co., for which the structure was built, is the trading department of the famous Mitsui Industrial and Banking Establishment of Japan, which has branch offices throughout the world, its New York office being at 445 Broome Street.

CEMENT FILLING SAVES TREES.

Washington, Jan. 19.—The Davy Tree Expert Company of Kent, Ohio, the leaders in their particular specialty, have found that cement makes the best possible filling for cavities in trees. They have reduced the treatment of diseased trees to a science and by their method they can take a tree with a large hole rotted in its trunk, cleanse the cavity, chisel away the diseased wood, and fill it with cement in such a way that the tree takes on new life and growth. The accompanying cut shows

TREE SURGERY—USING CEMENT ON BIG ELM IN CAPITOL GROUNDS IN WASHINGTON.

an elm on the capitol grounds after a particularly bad cavity had been treated and filled by the experts. It is expected that the bark will grow over the cement filling shown in the cut, and that in a few years all traces of the injury to the tree will have vanished.

The contract for the concrete piles and foundations of a building to be erected at Louisville, Ky., for the Kentucky Elevator Company, has been awarded to the Raymond Concrete Pile Company, of New York and Chicago; Witherspool & Englar, engineers.

LONG TIME EXPERIMENTS.

One of the experiments at the University of Minnesota, St. Paul, the testing of reinforced concrete floor slabs, will extend over a period of ten or twenty years and will have an important bearing on the question of the durability of reinforced concrete construction. It is asserted by some engineers that the steel bars used in such construction will, in time, either rust away or disintegrate through electrolysis. A basement room of the new main engineering building of the university will be set aside for this purpose. Opportunity will be given to try out a new method of testing concrete construction, devised by Dean F. C. Shenehon, of the college of engineering. Formerly completed construction was tested by loading bags of sand on a section of the work, the specifications of a building generally calling for a certain sized section of floor to bear up a specified weight. Under Dean Shenehon's method the cumbersome sand bags are done away with. Water is substituted, making a cheaper and much more efficient way. The load can be increased evenly and more uniformly, also allowing measurements of the defection or "curves" to be made more accurately.

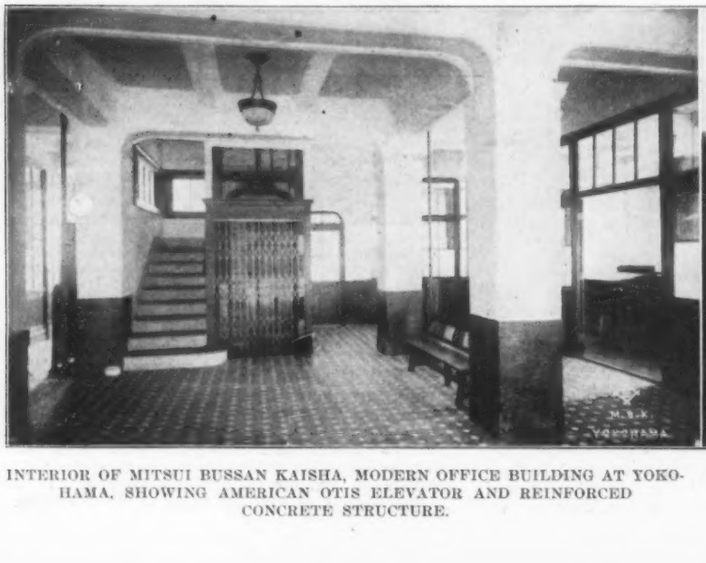
THE BRUST PLAN FOR CONCRETE MOLDS.

Washington, Jan. 16.—Albert G. Brust, of Washington, D. C., after working on plans for constructing concrete walls for a number of years and applying for a patent July 3, 1907, has perfected his idea and on July 11, 1911, secured a patent for a mold or form which may be used repeatedly in the building of walls or columns, or of entire houses. These forms were used in the new Cornwall building on 4th street between 14th and 15th streets, in this city, in putting up a concrete supporting column around an iron post.

Another example of the use of the Brust mold is seen in a building which is called the "scalehouse" at the Soldiers' Home. This is a small six-room structure, and while it is used primarily to store the weighing machinery over which supplies must pass on the way into the big institution, it is of a type which illustrates the branch of the building industry in which these forms may be used in the construction of homes.

The MacArthur Concrete Pile & Foundation Co., 11 Pine street, New York, announce that they have been recently awarded the following Pedestal Concrete Pile contracts: Foundations for a manufacturing building, Saginaw, Mich., for Hammond-Standish; architects, Coles & Mutcheller, Saginaw. Foundations for a warehouse building at Hamilton, Ont., for Oliver Chilled Plow Works, Ltd., of Canada. This is the second contract for the Oliver Chilled Plow Works. Prack & Perrine are the architects. The third contract is for a foundation for a three-quarter million dollar court house for Fulton county, Atlanta, Ga. Over 1,200 Pedestal Piles are being driven. A. Ten Eyck Brown and Morgan & Dillon are the architects.

The Piedmont Co., which is capitalized at $400,000 and of which J. C. Bass is president and W. H. Davis secretary and treasurer, is a comparatively new company, having been established about two years ago. A few months ago sales offices were opened in Atlanta under the management of Messrs. Kendrick & Tucker.



INTERIOR OF MITSUI BUSSAN KAISHA, MODERN OFFICE BUILDING AT YOKOHAMA, SHOWING AMERICAN OTIS ELEVATOR AND REINFORCED CONCRETE STRUCTURE.

EXTERIOR MITSUI BUSSAN KAISHA MODERN CONCRETE OFFICE BUILDING AT YOKOHAMA.

NEW CODE

New York Finally Adopts a Code For the Regulation of Concrete Structures After Much Deliberation.

New York, N. Y., Jan. 15.—The rapid progress made during the past decade in concrete construction engineering has necessitated the entire revision of the local reinforced concrete building regulations. The old rules were sadly out of date, and have seriously handicapped the industry here during recent years. As these rules have been adopted after prolonged conferences with the leading authorities in this line they can be accepted as a model of their kind.

The code in its entirety follows:

1. The term reinforced concrete in these regulations shall be understood to mean an approved concrete mixture reinforced by steel of any shape.

2. Reinforced concrete will be approved for all types of construction if the design is in accordance with good engineering practice, and stresses are figured as required by these regulations.

3. Before permission to erect any reinforced-concrete structure is granted, complete drawings and specifications must be filed with the superintendent of buildings, showing all details of the construction, the size and position of steel reinforcement, and the composition of the concrete.

4. The concrete for reinforced-concrete structures shall consist of a wet mixture of one part of cement to not more than six parts of aggregate, fine and coarse, either in the proportion of one part of cement, two parts of sand and four parts of stone or gravel, or in such proportion that the resistance of the concrete to crushing shall not be less than 2,400 pounds per square inch after hardening for twenty-eight days.

5. Only Portland cement meeting the standard specifications for cement of the American Society for Testing Materials shall be used in reinforced-concrete structures.

6. Fine aggregates shall consist of sand, crushed stone or gravel screenings, passing when dry a screen having one-quarter inch diameter holes, and not more than 6 per cent. passing a sieve having one hundred meshes per lineal inch. It shall be clean and free from vegetable loam or other deleterious matter.

7. Mortars composed of one part Portland cement and three parts fine aggregate by weight when made into briquettes should show a tensile strength of at least 240 pounds per square inch at twenty-eight days.

8. Coarse aggregate shall consist of crushed stone or gravel which is retained on a screen having one-quarter inch diameter holes and graded in size from small to large particles. The maximum size shall be such that all the aggregate will pass through a one inch diameter ring. The particles shall be clean, hard, durable and free from all deleterious material.

9. Steel for reinforcement of concrete shall meet the requirements of the standard specifications for steel reinforcement of the American Railway Engineering and Maintenance of Way Association.

10. Wire used for column hoops shall be drawn from open hearth billets and shall have an ultimate tensile strength of not less than 85,000 pounds per square inch.

11. The span length for beams and slabs shall be taken as the distance from center to center of supports, but need not be taken to exceed the clear span plus the depth of beam or slab. Brackets shall not be considered as reducing the clear span.

12. Length of columns shall be taken as the maximum unsupported length.

13. All reinforcement shall be accurately located and secured against displacement. The reinforcement for slabs shall not be spaced farther apart than two and one-half times the thickness of the slab.

14. Slabs shall not be less than four inches in thickness for floor and three and one-half inches for roofs.

15. As a basis for calculations for the strength of girders, beams and slabs, the following assumptions shall be made:

(a) A plane section before bending remains plane after bending.
(b) The modulus of elasticity of concrete in compression remains constant within limits of working stresses fixed in these regulations.
(c) The adhesion between concrete and reinforcement is perfect.
(d) The ratio of the modulus of elasticity of steel to the modulus of elasticity of concrete is fifteen.
(e) Concrete has no value in resistance to tension.
(f) Initial stress in the reinforcement due to contraction or expansion in the concrete is negligible.

16. The bending moment of slabs uniformly loaded and simply supported shall be taken as ⅛ Wl, where W = total load and l = span.

17. The bending moments at the center and at intermediate supports of floor slabs continuous over two or more supports shall be taken as 1/12 Wl.

18. The bending moments of slabs that are reinforced in both directions and supported on four sides and fully reinforced over the supports (the reinforcement passing into the adjoining slabs) may be taken as 1/F Wl for loads in each direction, in which F = 8 when the slab under consideration is not continuous or when continuous over one support, and F = 12 at both center and supports when the slab is continuous over both supports. The distribution of the load shall be determined by the formula

$$r = \frac{l^4}{l^4 + b^4}$$

in which r equals proportion of load carried by the transverse reinforcement, l equals length and b equals breadth of slab.

19. Simply supported beams shall be considered as simple beams with bending moments of ⅛ Wl.

20. Beams supported at one end and continuous at the other shall be considered as partially restrained with a bending moment of 1/10 Wl at the center and ⅛ Wl over intermediate support.

21. Beams supporting rectangular slabs reinforced in both directions shall be assumed to take the proportions of load as determined by the formula in section 18.

22. The bending moments at center and support for beams or girders continuous over two or more supports shall be taken at 1/12 Wl.

23. The bending moments due to other than uniformly distributed loads shall be computed according to accepted theory.

24. Where adequate bond between slab and web of beam is provided, the slab may be considered as an integral part of the beam provided its effective width shall not exceed on either side of the beam 1/6 of the span length of the beam nor be greater than six times the thickness of the slab on either side of the beam, the measurements being taken from edge of web.

25. Members of web reinforcement shall be so designed as to adequately take up all involved stresses throughout their entire length. They shall not be spaced to exceed three-fourths of the depth of the beam in that portion where the web stresses exceed the allowable value of concrete in shear. Web reinforcement, unless rigidly attached, shall be placed at right angles to the axis of the beam and carried around the extreme tension member.

26. Reinforced-concrete structures shall be so designed that the stresses in the concrete and steel shall not exceed the following limits:

	Lbs. per sq. in.
Extreme fibre stress on concrete in compression	650
Concrete in direct compression	500
Shearing stress in concrete when all diagonal tension is resisted by steel	150
Shearing stress in concrete when diagonal tension is not resisted by steel	40
Bond stress between concrete and reinforcing bars	80
Tensile stress in steel reinforcement	16,000
Tensile stress in cold drawn steel wire used as column hooping	20,000

In continuos beams the extreme fibre stress on concrete in compressiom may be increased 15 per cent adjacent to supports.

27. Axial compression in columns without hoops, bands or spirals, and with not less than one-half nor more than 4 per cent of vertical reinforcement secured against lateral displacement by steel ties placed not farther apart than fifteen diameters of the rods nor more than twelve inches, shall not exceed 500 pounds per square inch on the concrete nor 6,000 pounds per square inch on the vertical reinforcement.

28. Axial compression in columns with not less than 1 per cent of hoops or spirals spaced not farther apart than one-sixth of the diameter of enclosed column and in no case more than three inches, and with not less than 1 nor more than 4 per cent of vertical reinforcement, shall not exceed 725 pounds per square inch on the concrete within the hoops or spirals nor 8,700 pounds per square inch on the vertical reinforcement.

29. Axial compression in structural steel columns thoroughly encased in concrete having a minimum thickness of four inches and reinforced with not less than 1 per cent of hoops or spirals spaced not more than twelve inches apart may be taken at 16,000 pounds per square inch on the net section of the structural steel, no allowance being made for the concrete casing. The hoops or spirals of the concrete casing shall be placed not nearer than one inch from the structural steel or the outer surface of the concrete. The ratio of length to least radius of gyration of the structural steel section shall not exceed 120.

30. In reinforced-concrete columns the compression on the concrete may be increased 20 per cent when the fine and coarse aggregates are carefully selected and the proportion of cement to total aggregate is increased to one part of cement to not more than four and one-half parts of aggregate, fine and coarse, either in proportion of one part of cement, one and one-half parts of sand and three parts of stone or gravel, or in such proportion as will secure the maximum density.

31. The vertical steel bars in reinforced concrete columns shall bear squarely on steel plates or casting bedded on top of the footing.

32. Bending stresses due to eccentric loads shall be provided for by increasing the section of concrete or steel until the maximum stress shall not exceed the allowable working stress.

33. Whenever it is necessary to splice bars, the connections between them shall be of sufficient strength to carry the stress.

34. In columns, the splicing of longitudinals, having an area less than one and one-quarter square inches, may be done by lapping, the lapped bars to be wired securely to each other. Longitudinals having areas in excess of one and one-quarter square inches shall be spliced by butting the bars squarely one over the other and tying the same securely together by some mechanical means that will not utilize the adhesive strength of the concrete. All such splices shall be made above floor levels, but not more than twelve inches above the same.

35. In columns the ratio of length to least side or diameter shall not exceed fifteen, but in no case shall the least side or diameter be less than twelve inches.

36. The concrete members of floor construction in which hollow tiles, concrete blocks or other fillers are used, in combination with reinforced concrete, shall be designed in accordance with these regulations, except that the slab portion cast on top of the fillers, may have a minimum thickness of two and one-half inches, provided the fillers do not exceed 60 per cent of the construction.

37. Exterior and interior bearing and enclosure walls of reinforced concrete, supporting floor and roof loads, shall be securely anchored at all floors, and of such thickness that the compressive stress shall not exceed 250 pounds per square inch, but in no case less than eight inches. The thickness shall not be less than 1/20 of the unsupported height. Steel reinforcement shall be placed near both faces of the wall, running both horizontally and vertically and weighing not less than one-half pound per square foot of wall.

38. Footings for walls and columns may be constructed of reinforced concrete provided the working stresses for concrete and steel are not exceeded and the steel is protected by at least four inches of concrete.

39. The steel reinforcement in columns and girders shall be protected by a minimum of two inches of concrete; in beams and walls by a minimum of one and one-half inches, and in floor slabs by a minimum of one inch of concrete.

40. The contracter may be required to make load tests on any portion of a reinforced-concrete structure within the reasonable time after erection. The tests shall be made under the direction of the superintendent of buildings, and shall show that the construction will sustain safely a load of twice the live load for which it was designed.

41. These regulations do not apply to any construction for which provision is otherwise made in the building code.

NEW IDEAS

Voice of Architect W. L. Steele at the Sioux City Convention.

One of the features of the convention of the Iowa Cement Users Association was a paper by W. L. Steele, an architect of Sioux City. Mr. Steele gave utterance to many new ideas and showed that he is in the advance line of architects in the proper use of concrete in house construction. His paper follows:

It is not the object of this paper to present new facts about a great industry to men better versed in that industry than the writer. Neither is it the object of this paper to enumerate all the varied uses of concrete and cement in architecture. It is not within the scope of a paper such as this to present the history of these uses and their development. But in a time of almost feverish mechanical and commercial activity it is well to give pause, and note the tendencies of our efforts. It is well to measure them by the known values of basic principles. Such a discussion may or may not be interesting. It may or may not be profitable from the standpoint of dollars and cents. But it is necessary that we be not carried by our progress in certain directions out of balance with what should be our progress in other directions.

It can hardly be disputed that never in the history of civilization has there been a time when such wonderful advance in mechanical and commercial achievement has been made as our own time. It is also true that never in the history of civilization has there been a time of such "black indifference" towards the noble king of all the arts, Architecture, as our own time. We may make excuses for this condition, admitting it with an air of lofty superciliousness. We may even affect a pride in our having thrown aside the childish folly of the idealism of earlier ages. We may even deny the statement as we point proudly to our great edifices. But, my friends, if we consider the matter dispassionately, we must admit that we know little about real architecture and care less.

One of the popular magazines had a picture of the Great Pyramid shown on the same page with one of the outlandish office building towers of New York City. A dialogue between them is imaginately described. The final statement is made by the great monument of Egyptian grandeur, which says quietly: "Ages after you are gone I will still exist."

This fatal defect of perishableness is only one of the many things that are wrong with our modern architecture. Certainly I do not mean to say that any building built by the hands of men is imperishable. But I do mean to say that real architecture has always found its expression in the best and most durable materials available. Our modern idea has been not the best but the cheapest. It is a question of building for revenue only, of putting up something to make a showing and catch some short-sighted purchaser, of erecting bogus Roman temples, jig sawed Gothic churches, houses well called "balloon framed."

In view of this tendency, so widespread and so deplorable, the thoughtful architect welcomes with great thankfulness the increasing use of concrete and cement for building purposes.

Here are materials durable indeed. The ancient Romans seized upon them and their work still standing proves their wisdom.

Fortunate it is that concrete and cement construction is not so expensive but that reasonable men will use it for the sake of its permanence. An added first cost when well invested for durability will soon be paid for in the saving of depreciation, the slight amount of repairs, the reduction in fire losses and the low cost of insurance against fire. Cement-concrete is an ideal material in its plasticity. It flows when cast into any shape. It can lend itself as readily to the graceful pergola in the garden as to the massive vault or store-house.

It may scintillate with marble-like whiteness or pass down the scale of color value to sober gray or brown. It may bear within its broad surfaces jewel-like settings of bright colored tile or terra-cotta, or it may be appropriately ornamented by mouldings, relief work, sculpture.

I do not mean to say that concrete and cement are at the disposal of every man who wishes to build, or that there are so many craftsmen skilled in their uses that all the possibilities of concrete and cement are ours for the asking. No, we are just beginning to understand these great materials and the possibilities are yet mainly of the future.

What, then, of the present? If we are building for the future we must build wisely and well.

The beginning of the use of concrete and cement in this country were not particularly auspicious.

In an article in the Architectural Record Mr. H. H. Sloan says:

"A writer on architectural subjects some years ago said that American architecture seemed to be the covering of one thing with another to imitate a third, which if genuine would be undesirable. A principle not unlike this was at first generally applied to concrete construction, and many designs of buildings in concrete were worked up to imitate ashlar and cut stone work, and these in a class of building in which such materials would have been entirely unsuitable. So it was that buildings are to be seen in concrete formed with V-shaped joints to imitate large blocks of ashlar, and houses constructed of hollow concrete blocks looking monotonous with their uniform irregularity, imitative of rock face."

The writer just quoted has four articles in the Architectural Record on the "Architectural Treatment of Concrete Structures" which I would recommend for your careful perusal. They appeared in May, August and November of 1911 and January, 1912.

I have in my possession an issue of the magazine "Concrete" for March, 1906. It contains two articles which are noteworthy as showing the phases of the industry most interesting at that time. One is on the "Manufacture of Artificial Stone" and the other is about "Cement Block Architecture."

Just at this point a preachment might be made upon the text:

"Give a dog a bad name and then hang him."

The spirit of the legendary inventor of the wooden nutmeg might well be invoked as patron for any industry which has its beginnings in the manufacture of an imitation. So it is that real architecture is discussed in the

schools and the women's clubs academically, theoretically—as something found abroad, in museums, in books—anywhere but in our own work-a-day world. There is no room for the real thing because of the imitations. Our buildings as a rule are very poor copies of some other fellow's building. Even the materials are in large part made up of imitations of something else. Would you have stone? Use artificial stone, for it is cheaper and just as good. If not that there is still the sheet metal man with his galvanized iron cornice to fall back on. Would you have brick? Here are sheets of metal stamped in a brick pattern which if tacked on a wooden wall and painted will give you a "bricky" effect, and think how cheap it is!

Tile? No, use hard white cement and block it off and paint it with enamel paint.

The fear seems to be that there is something immodest in a building material being allowed to be itself, to show what it really is. It is a sort of warped and twisted remnant of the nightmare times when Cromwell covered up the beautiful stone carving in Wells Cathedral with plaster and his men knocked the noses and ears and toes off the marble angels and saints.

The point is this: No material is architecturally employed unless in its use it finds its own proper and legitimate expression.

The reason why the future for concrete and cement is so promising is that it is for us, or if we fail, for some later generation to develop an intelligent appreciation of the real nature and resources and limitations of these noble materials.

It is not enough that we have succeeded in manufacturing good artificial stone, or durable concrete blocks; or that we have succeeded in making cement stick to a brick wall. Well for us indeed that we know how to make the best cement that has ever been made, that we are becoming skilled in its use. When there has grown up a great intelligent army of artisans skilled in the uses of concrete and cement, when we have discarded the superstition that any cheap labor is good enough for our purposes; we will have reached a point where we will not be satisfied with anything less than the full and complete expression of our materials as they themselves are.

If our cement is a covering for something else it will express the hidden framework in some such intimate way as the human form expresses the bone and muscle beneath the enveloping flesh. If our concrete is monolithic we will only have joints where necessary for expansion and contraction. If we wish to use concrete in block form, well and good; but we will make blocks that are not ugly imitations of the rocks of stage scenery. They will be good looking, honest blocks unmistakably cement and concrete. If they show on their surface the bold admixture of cement, sand and stone we may be satisfied to let that pass as our hall-mark of honesty in construction.

There is no intrinsic beauty in a block which is all washed over with a cement glaze or covered with a surface coat of fine sand and cement. It may be well to make them so, but I believe that if the block type of construction is to survive it will be in some form which is homogeneous throughout.

Concrete and cement in architecture must take an honest place. Small credit will be ours if we do not measure up to our opportunity. The history of every nation is written in its architecture with more unerring truth than in the books. If our American architecture is to find its best and most complete expression in terms of concrete, it will be so because the American architects and builders realize that they have at their disposal a material which is worthy and amply adequate within its own limitations of meeting all the requirements of the most fastidious taste.

When we leave off petty surface treatments and work more in the mass; with greater regard for the structural necessities and less thought of arbitrary refinements; when we are more concerned with the big functions of our buildings, their structural right-ness, and less with pedantic selfconscious groping in a maze of thumb rules of design we may do crude things for a while; but we will grow into that breadth of attainment in which the thing becomes instinctive.

An architect who is sensitive to these things and alive to the real bigness of architecture has said:

"If one has faithfully studied and interpreted the requirements of his structure, expressional as well as practical, and faithfully followed them out, then he does not so much *design* his building as he watches it grow."

It was the writer's good fortune to be employed in an office where these theories were put into practice, though not indeed in relation to our new architecture in concrete and cement, for its time was not yet come.

In that office the consulting engineer, the sculptor, the skilled maker of terra-cotta, of ornamental iron were frequent and welcome visitors. They entered into discussion with the architect concerning the practicability of his ideas. They explained to him how certain things could not be done, how others might be. Sometimes, fired by his enthusiasm, they undertook to execute work the like of which they themselves had never seen and which required months of careful experiment and some failures to produce.

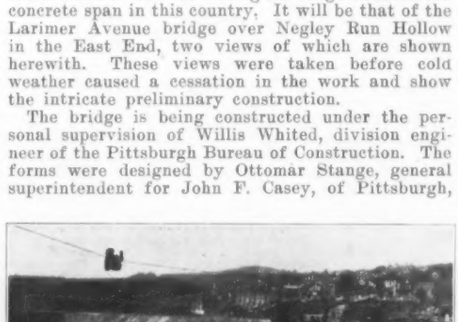
Of such thought and intimate co-labor were born such buildings as the Transportation Building at the World's Fair in Chicago (the only American building that I know of which ever received a medal of honor from France), the Schiller Theater, the Carson, Pirie, Scott building with its marvelous iron work, the Wainwright tomb in St. Louis with its wizardry in granite.

Now, my friends, the architects are not going to work out the problems of the architectural expression of concrete and cement alone. Neither are you going to work them out alone. They need your help. You need theirs. They need your practical experience, your intimate knowledge of your materials, your inventive and mechanical genius, your craftsmanship, your sympathy. You need their knowledge of the a-b-c of architecture, their understanding of the subtle organic relationships that exist between the function of a structure and its manifold forms. You need some of their idealism and "fool ideas" to temper your own hard-headedness. We need each other lest we grow conceited and too smart. It is all so simple, and yet as complex as the human heart. We may try to deceive ourselves, but our buildings tell the truth. If they are the results of sane, logical, well-balanced thought they will show that to all who know how to read their message. If they are the result of insane or illogical or lop-sided thought, or even of mediocre, ignorant, shifty thinking; or worse yet if they are born of no thought at all, they will show it to the wiser ones of a later and better day. For beware, my friends, we are dealing with gloriously durable materials. If we build ugly, maladroit buildings it will be a hard task for our poor children to tear them down. If we can only make them beautiful; simply, frankly, honestly beautiful; free from knick-knacks, gew-gaws, fakes and fripperies; suited to their purpose and use, fit for their location, adapted to their climatic conditions; our children and our children's children will rise up and call us blessed.

PITTSBURGH'S NEW BRIDGES.

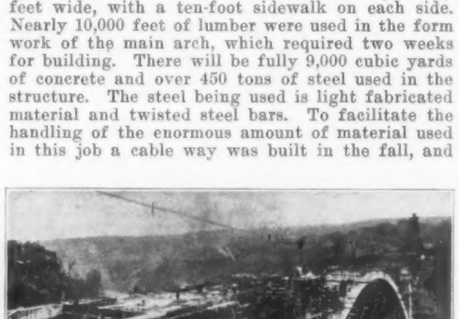
Pittsburgh, Pa., Jan. 16.—Pittsburgh will have the distinction soon of having the longest reinforced concrete span in this country. It will be that of the Larimer Avenue bridge over Negley Run Hollow in the East End, two views of which are shown herewith. These views were taken before cold weather caused a cessation in the work and show the intricate preliminary construction.

The bridge is being constructed under the personal supervision of Willis Whited, division engineer of the Pittsburgh Bureau of Construction. The forms were designed by Ottomar Stange, general superintendent for John F. Casey, of Pittsburgh,



FORM WORK ON LARIMER AVENUE REINFORCED CONCRETE BRIDGE, AT PITTSBURGH.

who has the contract. The work of removing the old wooden structure was started in June, 1911, and it is expected that in a few months the new bridge will be ready for use. The bridge will have a pier span of 300 feet and will have a roadway thirty feet wide, with a ten-foot sidewalk on each side. Nearly 10,000 feet of lumber were used in the form work of the main arch, which required two weeks for building. There will be fully 9,000 cubic yards of concrete and over 450 tons of steel used in the structure. The steel being used is light fabricated material and twisted steel bars. To facilitate the handling of the enormous amount of material used in this job a cable way was built in the fall, and



APPROACH TO LARIMER AVENUE BRIDGE AT PITTSBURGH.

nearly all of the concrete is deposited in this way. This cable way also does good service in erecting forms and in placing the steel. It is strung between towers on the center line of the bridge and beyond its limits. In the forms parallel grooves have been provided by strips of wood on the inside of the forms for the heavy columns and abutments. This will add greatly to the appearance of what would usually be a plain surface. By the use of triangular three-quarter inch strips sharp corners are also avoided, so that the bridge will have a very symmetrical appearance.

This bridge has suited the authorities and the people of Pittsburgh so well that Public Works Director Joseph G. Armstrong is now getting estimates on a still larger concrete bridge to connect Cuyuga Street with Grant Boulevard. It is proposed to make this a reinforced concrete structure and preliminary figures indicate that the structure will cost about $700,000. Of this amount $500,000 was appropriated by a bond in 1910 and council will probably be asked to issue bonds for the difference in cost. The matter is now under advisement by Emil Swensson, consulting engineer of Pittsburgh. If the bridge is erected it will have one main span 430 feet long and three spans of 180 feet each. These, with the bridge approaches, will make the entire length about 2,200 feet. The City of Pittsburgh has also changed its original plans for the steel bridges over the Pennsylvania and Junction (B. & O.) railroads in line with Atherton Avenue, and these bridges will be of reinforced concrete also. The bridge over the Junction Railroad is already under way.

THE USE OF CONCRETE FENCE POSTS.

It is an evident fact that necessity is the mother of invention. With the decreasing of the supply of any article that is necessary in our lives others spring up and take their places.

Just now the passing of our primeval forests is beginning to be felt as a hardship and many substitutes are being offered to take the place of timber. When our forefathers settled in this country nearly everything they used was made of wood, for wood then was very plentiful. As time went on, stone, iron, steel, brick and later, concrete gradually wedged themselves in to fill the gap that was left by the lack of wood. It was a comparatively easy matter for a man fifty years ago to shoulder his ax and cut fence posts he needed from some copse on his farm; but now it is a different matter. Most of the farms are destitute of wood, possibly with the exception of young saplings; and also fence posts must be shipped in from the more wooded states. This, combined with the fact that the forests are being rapidly depleted, is increasing the cost of the wood posts to such an extent that fencing the modern farm is one of the greatest expenses; and of late the farmer has implored for something that will lessen this expense.

Concrete is one of those materials which seems to be one of the main stays of our modern wants. The Department of Agriculture has seen the possibilities of using and filling the gap with this material, and after a series of experiments has recommended the use of concrete posts to the farmer in their bulletin issued May 21st, 1910. Now many plants for making concrete posts have been established throughout this country, and judging from the increasing demand for posts it will be but a short time before wood posts will be obsolete.

Several years ago the railroads, after testing the practicability of the concrete post, decided to adopt them and are now placing plants all over their various divisions for turning out posts in large quantities. They have satisfied themselves that concrete posts properly made, with a wet mixture, are not only a saving in cost, but an improvement in the appearance of their right-of-way. It seems but a question of time before the traveler will enjoy the view of a straight, uniform fence, instead of unsightly distorted wood posts of all sizes, many charred at the base by grass fires.

CONCRETE RAILWAY TIES.

The day when reinforced concrete ties will be in universal use by the railroads seems to be near at hand, hastened of course by the depletion of the timber supply. There seems to be little wonder about this when it is remembered that the life of a wooden tie is only two years. Now comes the Universal Concrete Tie Company, with a tie under the Percivel patent that has withstood the rigid test of years, bearing the traffic of various trunk lines, and it is backed up by the testimonials of railway officials who indorse it unqualifiedly. Where the tie of this company has been in use the spiking devices have never been tightened, it has never been necessary to remove any of the cushions, the rails have never been out of alignment, and in general its record seems to be perfect.

JACKSON CONCRETE NEWS.

Jackson, Tenn., Jan. 14.—Conditions are very satisfactory at Jackson. The Birmingham and Northern Railroad has just entered the city, while the Gulf and Mobile is in prospect to extend from Middleton, Tenn.

Ainsworth & Sedwick have done a fine concrete job for the Madison Cotton Oil Company here. They are also working on a Baptist church at Lexington, Tenn.

Hilliard & Pomeroy are doing considerable street paving work in the city.

The Central Lumber Company is handling concrete, cement and building supplies and furnished the cement for the First National Bank job, an elegant building now going up from Oman's Bowling Green stone for exterior. The management reports business good and has built for itself a new office and warehouse.

QUARRIES

OHIO MEETING.

The regular annual meeting of the Ohio State Stone Club will be held at Toledo, at the Boody House, on Tuesday, January 23, and Wednesday, the 24th, the opening session being on Tuesday at 10 a. m. President George B. Christian said that he considers the coming meeting a very important one, and that every member of the club should make it a point of being on hand and attending the executive session. The old guard members of the club have been instructed to extend a cordial invitation personally to their neighbors in the rock crushing business who should affiliate with the Stone Club and help in this work. Secretary Loy promises a live-wire program, with the things on it that count in their most detailed operations of the crushing and road building business in Ohio.

STONE CRUSHERS FOR SOUTH AFRICA.

[From Consul E. A. Wakefield, Port Elizabeth, Cape Colony.]

There is a fair demand for stone-crushing outfits from municipalities and also from divisional districts outside municipal areas of jurisdicton. For local administrative purposes the country is divided into sections known as divisional districts. Each district has a board of councilors with jurisdiction over district matters, including the establishment and maintenance of highways.

The machines now in use are employed almost exclusively in crushing stone for local road work within municipal and divisional council areas. The Port Elizabeth municipality has six stone crushers, size 16 by 9 inches, made by an English firm and costing $1,874 each, delivered in Port Elizabeth. This machine is the one principally in use throughout this consular district. Extra jaws for these machines are stocked by a local firm.

Unless personally represented in South Africa, communication with municipal and divisional council officials (a list of whom is obtainable from the Bureau of Manufactures) is the best method of placing the advantages of stone-crushing machines before these bodies.

PITTSBURGH QUARRY NEWS.

Pittsburgh, Pa., Jan. 16.—Stone companies are taking it easy while the freezing weather lasts. Most of them operated up into December and shipments during the late fall months were good. The road stone people had an exceptionally good year in 1911. They look for still better times this year.

The American Lime & Stone Company shut down its quarries and kilns temporarily near Bellefonte, Pa. They will resume in good weather.

The Birdsboro Stone Company is building large storage bins along the P. R. R. at West Monocasy, Pa. Each bin will have a capacity of about 4,000 tons.

Guy A. Hardesty of Shinnston, W. Va., recently set up a big mountain crusher and iron truck and will open up a stone quarry near that place at once. It will supply crushed limestone for making concrete blocks and crushed stone for making road drivers.

The Wadsworth Stone & Paving Company of Wadsworth, Ohio, has increased its capital stock $100,000 and will make extensive improvements to its plants in the spring.

Reports compiled at Harrisburg, Pa., show that Allegheny county is the first county in the state in road work. It has received $14,637.13 out of the fund of $100,000 set aside by the state for payment to counties, boroughs and townships that maintained highways to conform with the state standard. Highway Commissioner E. M. Bigelow certifies that Allegheny county has 321.28 miles of improved road. It received in all last year over $15,000 state money for this purpose.

The Richland Macadam Company of Waldo, Ohio, has been incorporated with a capital stock of $20,000. The incorporators are Thomas Carroll, T. A. Gruber, Frank G. Ebert, Philip Meister and O. M. Mills.

The Wagner Stone Company of Sandusky, Ohio, has increased its capital stock from $100,000 to $500,000.

The Kankakee City council has passed an ordinance ordering the property known as the Kankakee City crusher plant to be sold at auction.

One of the most gigantic blasts ever attempted in the state of Washington will be set off at Tenino in the latter part of January by the Tenino Sandstone Company. The big explosion will require two full carloads of black powder and will lift more than a half million tons of sandstone. A contract has been awarded to this company for the furnishing of 350,000 tons of stone for the Grays harbor jetty.

The National Stone Company of Chicago, Ill., has been dissolved.

The Maine Trap Rock and Contracting Company, of Portland, Me., has been incorporated with a capital stock of $1,000,000. Incorporators: D. J. Snow, president; H. P. Sweetser, treasurer. Quarrying and preparing for market minerals of all kinds.

Forty thousand tons of rip rap stone is the estimate for the requirements of the Mississippi River Commission for use in the first and second districts, the work to be under Major Clarke S. Smith, United States Engineer's office, Memphis, Tenn.

The new stone crushing plant of the John T. Dyer Company is now in operation and trap rock is being crushed. The plant is located at Robesonia station, along the Pennsylvania Railroad, and of the three plants in this neighborhood is the most modern. It is claimed by the owners that this plant will have the largest output of stone of any of the Dyer quarries. The Dyer people will, when everything gets going smoothly, have a daily output of more than 125 cars a day. The Birdsboro Stone Company, a similar industry, is now crushing 65 cars of stone a day. This plant is the largest single crusher in the world.

J. A. Green & Sons, of Stone City, Iowa, have incorporated with a capital stock of $75,000 to operate stone quarries. The incorporators are: John A. Green, Jr., and Robert P. Green.

Worlock Stone Company, Sullivan, N. Y., has been incorporated with capital stock of $30,000 to quarry stone. The incorporators are: Cyrus Worlock, Helen M. Worlock and Bernard M. Burke, Canastota, N. Y.

The Universal Crushed Stone Company, Racine, Wis., has increased its capital stock from $30,000 to $130,000.

The Temescal Rock Company is building a plant at Corona, Cal., to cost $250,000. It will have a capacity of 350 tons of crushed rock an hour.

The Universal Crushed Stone Company, Racine, Wis., has increased its capital stock from $30,000 to $130,000.

The Malone Stone Co. reports that its quarries at Amherst and Euclid, Ohio, are quite busy. At the former flagstone is the principal output at present. The company is coming after Eastern business from its office in the Farmers' Bank building.

The Consolidated Stone & Mining Co. of this city reports that wages paid to stone workmen are higher than present prices warrant, as competition is very keen. Its lime and sandstone quarries at Ellwood City, Pa., are fairly busy and are now working on special orders for railroad and railway repair jobs. The company reports less road work than in some years, but has its usual quantity of men employed cutting.

Wadsworth, Howland & Co., manufacturers of the original Bay State brick and cement coating, recently issued a very attractive booklet, which should be in the hands of every man who is interested in these materials. A color chart is enclosed, as well as reproductions of photographs of numerous buildings on which their material was used with satisfaction. If you will write to the home office of the company, Boston, Mass., copy of this booklet will be sent to you free of charge.

The Taylor Iron & Steel Company, of High Bridge, N. J., announce that they have opened an office in the Fort Dearborn building, 105 W. Monroe street, Chicago, Ill. H. A. Johann will be in charge, as district sales manager. Mr. Johann is well known to the trade. The office was established in order to take care of his rapidly increasing business in this territory.

T. J. Flynn Sons Company has been incorporated for $5,000, at Boston, Mass., to deal in building materials. The incorporators are: T. J. Flynn, J. Henry Flynn and Edmund F. Flynn.

Side Talk

in which the Advertiser tells his own story

The Ohio Post Mold Company of Toledo, Ohio, has recently made an improvement on its molds for making concrete fence posts, which greatly decreases the labor cost and space required to turn out posts in large quantities. Its battery of thirty molds is so constructed that it will turn out thirty poured posts at one time, and at the same time occupies but one little corner of the concrete plant. It consists of five sections—six molds to the section. When one section is emptied the end frames are thrown back on hinges and the posts in the next section removed, this process being repeated until the entire thirty posts are taken from the molds. At no time is the green post handled without the mold to protect it. As it is lifted from the machine the sides of the molds spring away slightly from the posts, loosening it up. It is then carried to where it is to be cured and set carefully on the butt in a similar manner to shocking corn.

Through the merits of its product the Ohio Post Mold Company has been increasing its business by leaps and bounds, and there are now many large plants throughout the country that are turning out concrete posts in large quantities made in its molds.

A request for their catalogue sent to their office, 1341-48 Nicholas building, Toledo, Ohio, would be gladly granted, entirely free of charge.

The latest firm of consulting experts to enter the "rock products" field is the Bureau of Associated Geological Engineers of 131 State street, Boston, a firm that already has an extensive practice in other lines of geologic work. The bureau, which is managed by Myron L. Fuller and Frederick G. Clapp, both former members of the U. S. Geological Survey, has associated with it specialists in bridge and dam foundation examinations, and in all forms of rock product investigations, including cement, lime, plaster, sand, clay, building stones, and mineral fertilizers.

Henry K. Holzman, the well known architect and consulting engineer has moved to 1218 and 19 Fisher Building, Chicago, where he is better equipped than ever to design high class commercial and industrial buildings and to advise directly or through other engineers' regarding industrial building and mechanical transportation engineering, by data accumulated during eighteen years of actual practice.

The Chain Belt Company of Milwaukee have moved their Chicago office from the Monadnock block to rooms 900 and 902 Old Colony building. Benj. S. Reynolds will be in charge of the elevating and machinery line and Walter B. Lauer will handle the mixer end.

Among the recent contracts furnished by the Allentown Portland Cement Company may be mentioned the following:

United States postoffices, York, Pa., and Easton, Pa., M. P. Wells, contractor.

Philadelphia & Reading railway elevation, Philadelphia, John McMenamy, contractor.

P. & R. railway coal pockets, St. Clair, Pa., Enos Seeds, contractor.

Carnegie Library, Reading, Pa., Beard Construction Company, contractors.

Philadelphia Boulevard, Philadelphia, McNichol Paving and Construction Company, contractors.

Wholesale Grocers' building, Frankford, Philadelphia, John R. Wiggings & Co., contractors.

Spalding plant, Tonawanda, N. Y., Aberthaw Construction Co., contractors.

Susquehanna River bridge, Sunbury, Pa.

Scranton viaduct, Scranton, Pa., W. H. Lyons, contractor.

Leibler Theater, Boston, Mass.

Copley Plaza Hotel, Boston, Mass., George A. Fuller Construction Company, contractors.

Stephen Green building, Philadelphia, William Steele & Sons Company, contractors.

P. & R. railway bridges, Douglassville and Monocacy, Pa., H. E. Ahrens Company, contractors.

Water power dam, Lumber Yard, Pa., Reade Construction Company, contractors.

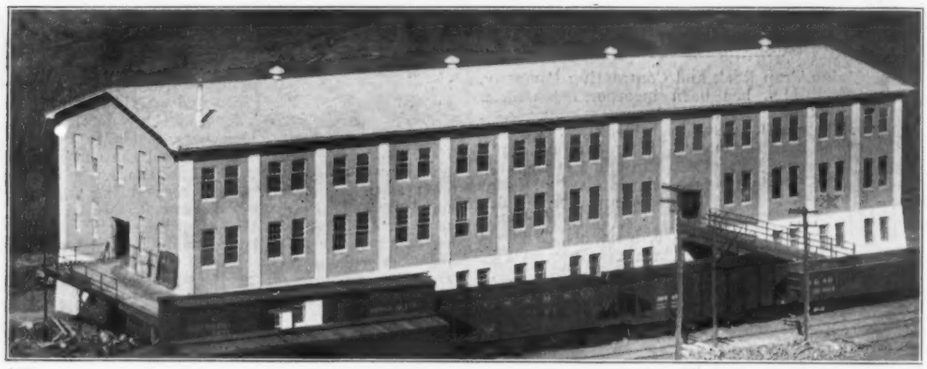
Whale Creek dock, dock department, City of New York, McHarg Barton Company, contractors.

Masonic Temple, Washington, D. C., Norcross Bros. Co., contractors.

P. & R. engine house, St. Clair, Pa., C. P. Bower Construction Company, contractors.

THE NEW NEWAYGO SCREEN FACTORY.

The illustration shows the new home of the well-known Newaygo screen. Built entirely of concrete, it is fireproof, and one of the most up-to-date plants; in fact is the largest plant in the world devoted exclusively to the manufacture of vibrating screens. It is fully equipped with the most modern tools for turning out large quantities of high class screens.



PLANT OF THE NEWAYGO ENGINEERING COMPANY, NEWAYGO, MICH.

It is located on the bank of the Muskegon river at Newaygo, Mich., about thirty miles north of Grand Rapids. A spur track of the Pere Marquette railroad gives, as the photograph shows, excellent shipping facilities.

The output of this plant is 1,000 Newaygo screens per year and has been for the past few months over 100 screens behind its orders. This shows the popularity of the Newaygo screen, as all of its output is confined to this country. A large factory in England supplies the foreign demand.

The separators are used for a great variety of materials, in fact, for most everything screenable between 4 and 180 mesh. To show its well deserved merit among large users of separating devices, where it has become "standard equipment," we might state that one large fertilizer combination uses 78 Newaygo screens in its various plants; another concern 40; another 38, and many from 4 to 20. In the cement field one manufacturer has installed 64; another 20; two other 17; etc., etc., etc. For screening cottonseed meal, gypsum, talc, lime, limestone, ore, chemicals, coal and a great variety of other ground materials it is recognized as one of the best.

When one realizes that four separate and accurate products may be obtained from a single separator in large quantities and that it can easily handle many materials which are practically unscreenable by other methods, it is no wonder that such a machine has, in a measure, cornered the screen market.

The entire product of this plant is sold by the Sturtevant Mill Co., of Boston, Mass., and many screens are used in connection with its well-known crushing and grinding machinery.

The Newaygo screen was developed in the Newaygo cement plant, where 17 of them were used for years, so, unlike most new machines, it was proven thoroughly practical before being offered to the public. W. J. Bell, formerly superintendent of the Newaygo Portland Cement Co., its inventor, saw its possibilities and arranged for its manufacture in an old furniture factory. The Sturtevant Mill Company alsoi appreciated its merit, so a combination was formed to market it on a large scale, which has been done, resulting in a fine new plant and a large and satisfactory screen business, which looks as though even the present manufacturing facilities will be inadequate to supply the increasing demand.

Mr. Bell has formed a corporation to conduct the screen manufacture, known as the Newaygo Engineering Co., of Newaygo, Mich., and has employed an expert cement engineer, who, with Mr. Bell, has designed and erected a number of cement plants. Thus the engineering company, as the name implies, will conduct an engineering business in connection with the Newaygo screen manufacture, making a specialty of cement and other plants where crushing, grinding and screening machinery are used. With this long and successful experience in this line, their services and advice should prove valuable to users of such machinery.

The Sturtevant Mill Co., of Boston, Mass., has opened a new office at 1116 Fisher Building, Chicago, in charge of W. G. Clark. Mr. Williams, who formerly represented this company, now has no connection with it as his own business requires most of his attention.

The General Fireproofing Co., Youngstown, O., have recently issued a handsome booklet which is typographically a dream. It contains much valuable information regarding the uses of herringbone expanded metal lath and is profusely illustrated. It will be sent free upon request if you will mention ROCK PRODUCTS.

AN INNOVATION IN TRADE MARKS.

There is little doubt but that the human interest element in trade marks is the secret of the success of many lines of goods on the market today. It is only necessary to mention the Gold Dust Twins, Old Dutch Cleanser, etc., to see why these goods are so well known all over the country. Their success lies in the human element which each trade mark contains, the personal figure which attracts the attention of the public at large and which makes them think of that particular line of goods when they are in the market because they remember the little figure in the trade mark.

LEHIGH'S NEW YEAR'S GREETINGS.

For fifteen years, ever since the cement industry had its inception in this country, all of the cement manufacturers have advertised their goods by the means of a circular barrel head label. These labels are all similar in design, each containing the words "Portland Cement" and the name of the brand. The only distinguishing feature is the different colors in each, but, of course, where only one color printing can be used, the labels all have a similarity which does not allow any one brand to stand out prominently from the rest.

It has been for the Lehigh Portland Cement Company to start an innovation which, although it has not been out long enough to prove its absolute worth, bids fair to make that brand stand out before the public as the one brand of cement which they will remember when they are thinking of using concrete.

Following out the idea of incorporating some human element into their trade mark they have recently designed one of a little Chinaman with the name Lee-Hi on his cap. The idea is not that the Chinaman has anything to do with the cement business, but that he lends the human element of interest to their trade mark and at the same time impresses the name Lehigh on the mind of the consumer under the Chinese name of Lee-Hi. The Lehigh Company have kept their old trade mark partly intact by putting the Chinaman in a circle with a dark blue background and a red outer rim, the colors of their original label.

In order to bring this new trade mark out strongly the Lehigh Company are now reproducing Little Lee-Hi in every phase of their advertising, such as sign posters, trade paper advertising, etc. Among the various forms in which the little Chink is now playing a prominent part is their house organ, "The Lehigh," which they publish monthly. The cover design for the January issue of "The Lehigh" is shown herewith, and it is the intention of the management to have Lee-Hi on the cover of this magazine, doing something every month in connection with the concrete industry in general and the Lehigh Portland Cement Company in particular.

It will be interesting to note how this new trade mark works out in its respective field, as it is certainly a distinct innovation.

"THE STANDARD" LOW CHARGING CONCRETE MIXER.

The Standard Scale and Supply Company have found by experience that the concrete mixer which they have been manufacturing under the name of "Eclipse" is very largely known by customers and the public in general as the Standard Machine. There has also been some confusion when parties have been trying to locate the Eclipse mixer when not remembering the name of the manufacturer. "The Standard" will in the future be used as the name of this mixer, this name being readily associated with that of the manufacturers.

"The Standard" scales manufactured by the same company and which has been on the market for so many years have made the name "The Standard" in connection with scales familiar in every section of this country as well as foreign countries, and "The Standard" mixers will in the future be as well known all over the world as "The Standard" scales.

The mixer is charged directly from the low charging platform and the entire batch is in view of all while it is being mixed. This feature is important, especially for reinforced work, where it is often necessary to be very particular as to the mix before discharging.

The discharging arrangement on "The Standard" mixer is very simple and semi-automatic, requiring the men to throw the discharge lever only past the center in either direction, when a strong spring completes motion of the lever and the discharge door.

One special feature of "The Standard" low charging mixer is the simplicity in construction; it is much lighter and can be readily moved from one job to another or placed inside of buildings from one job to another or placed inside of buildings or in locations where other outfits could not be used.

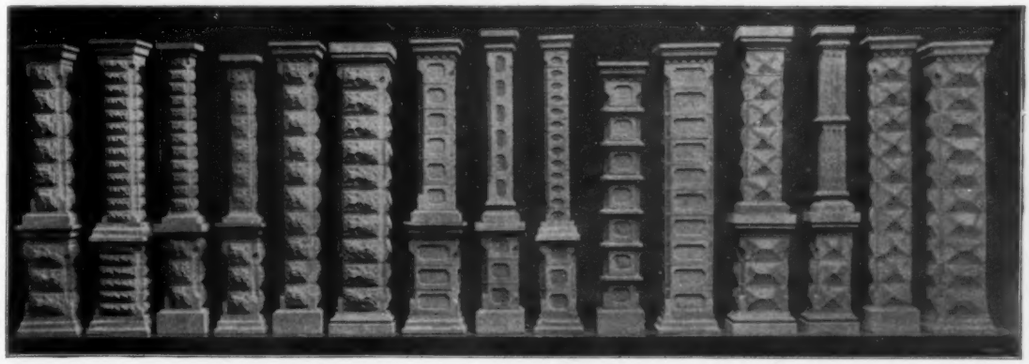
The machines are built in all sizes from 2 or 3 cubic feet capacity up to 40 cubic feet and with steam, gasoline or electric power. Full information will be sent upon request to the manufacturer.

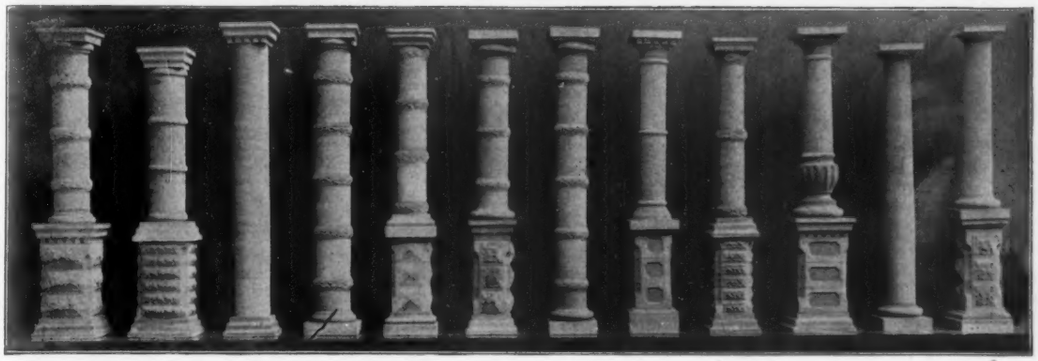
CONCRETING IN COLD WEATHER.

The above is the title of a new booklet published by the Universal Portland Cement Co., of Chicago and Pittsburgh. The subject matter of this very seasonable book is the mixing, handling and depositing of concrete in freezing weather. The booklet is particularly valuable at this time by reason of the increased use of cement during the winter months and on account of the demand for rapid building construction.

The necessity of a work of this character has long been felt by architects and cement users generally. This is perhaps the first time that any thorough study of the subject has been published in pamphlet form. The booklet contains much matter of great practical value to persons interested in doing concrete work properly in the winter months. The booklet may be had, free of charge, upon request to either the Chicago, Pittsburgh or Minneapolis office of the Universal Portland Cement Co. Mention ROCK PRODUCTS.

The State of Oklahoma Geological Survey has issued Bulletin No. 8 on the road materials and road conditions of Oklahoma. This is a very interesting and instructive document and will be sent free upon request by mentioning ROCK PRODUCTS.





MINIATURE MOLDS MANUFACTURED BY THE SIMPSON CEMENT MOLD COMPANY, COLUMBUS, OHIO.

SIMPSON CEMENT MOLDS.

For the proper and effective exposition of the numerous and varying styles of porch columns which may be manufactured by the use of its molds, the Simpson Cement Mold Company has adopted the original and unique plan of constructing miniature models of the columns to be exhibited at the various shows this winter. For several weeks plaster workers, modelers and metal pattern makers have been busily engaged in the building of diminutive molds which turn out facsimiles of the column blocks. The company will also display about 200 full-size blocks of various patterns.

The little columns will be erected in the rear of the Simpson booth and will make a very attractive and ornate appearance. Duplicates of the blocks will be placed on a table for inspection by the visitors, thus enabling them to easily determine their choice of the molds they require.

The Simpson Cement Mold Company will offer these small blocks at a nominal charge to purchasers of Simpson molds who wish to show the different styles of columns by displaying same in the office or residence of their prospective customer.

The Shoemaker & Casparis automatic sand and gravel elevator which is being used in several of the largest plants in this country is giving great satisfaction. This is one of the greatest labor-saving devices ever invented for certain conditions in sand and gravel plants. It would pay almost any sand and gravel operator to investigate this proposition and satisfy himself as to whether it could not be installed in his plant to good advantage. If you will write to Shoemaker & Casparis, Newcomerstown, Ohio, they will send you copy of their catalog with a complete description of the elevator.

HANDSOME RESIDENCE IN WAKEFIELD.

This beautiful residence shown herewith was recently built in Wakefield, Mass., for Miss Boit, the proprietor of the Harvard Knitting Mills, together with another smaller residence, a gardener's cottage and a garage and the whole group was colored in a beautiful soft, buff tone with Cabot's Waterproof Cement Stains manufactured by Samuel Cabot, Inc., of Boston, the makers of the celebrated Cabot's Creosote Shingle Stains.

The contractor who built this house, James F. Sherritt of Wakefield, writes the manufacturers as follows:

"Last spring I used over two hundred gallons of your waterproof cement stains on Miss Boit's new houses at Wakefield. This was a job I was very particular to have right and I am glad to say your material has proved entirely satisfactory in every way."

The waterproof cement stains are the natural outgrowth of the shingle stain busines, giving the same kind of deep, rich coloring effects on cement surfaces that the shingle stains give on wood surfaces and accomplishing these results without covering up or spoiling the beauty of the natural texture of the cement. They are stains not coatings, and they therefore give transparent coloring effects with a beauty like those of the shingle stain effects and quite unlike the solid, opaque covering that paints and similar compounds are designed to produce. But in addition to their superior artistic effects the stains contain a waterproofing which penetrates into the pores and completely seals them, producing a perfect and permanent waterproof result.

Other recent jobs are the high school at Phoenixville, Pa., Guild Hall, Marquette, Mich., buildings for the tuberculosis hospital at Otisville, N. Y., etc., etc.

BOIT RESIDENCE, WAKEFIELD, MASS.

ASSISTING THE DEALER.

"Confidential Book to Dealers" and "Confidential Book to Jobbers" are the titles of two booklets just issued by the General Roofing Manufacturing Co., East St. Louis, Ill., and which are being sent out to the trade in the prepared roofing line.

These pamphlets merit the close study of those interested in the question of roofing, for they contain many pointers of great value. There is also inclosed in the consumers' booklet a smaller one entitled "How to Build for Less Money," by Wilbur D. Nesbit, which is replete with matter and illustrations bearing on the question of economy in building.

The General Roofing Manufacturing Company has joined the dealer in an effort to keep the trade at home, and are exerting every influence at their command to assist them in securing the trade in their respective localities. "Buy from your local dealer" is the watch-word.

An innovation of the company is their ability to not only assist the dealer, but also the jobber, in properly advertising the roofing business, as they are in position to materially benefit the jobber whether he handles the mill brands of the company or has his own private brands.

Copies of these booklets may be obtained by writing to the General Roofing Manufacturing Co., East St. Louis, Ill., and mentioning ROCK PRODUCTS.

CLASSIFIED ADVERTISEMENTS

Advertisements will be inserted in this section at the following rates:

For one insertion.....25 cents a line
For two insertions.....45 cents a line
For three insertions.....65 cents a line

Eight words of ordinary length make one line.
Heading counts as two lines.
No display except the headings can be admitted.

Remittances should accompany the order. No extra charges for copy of paper containing the advertisement.

EMPLOYEES WANTED

WANTED.

If you are in need of or wish to sell anything which comes under any of these classifications, write us. If you have something not coming under these classifications we will create one for you.

AN EXPERIENCED MAN

Wanted—To take charge of a 5 kiln lime plant with crusher. Must be strictly temperate and one who can handle men. State experience and salary expected.
Address 829, care ROCK PRODUCTS.

FOREMAN OR SUPERINTENDENT

Wanted—To manage quarry and crushing plant in Wisconsin. Must be competent and understand crushing machinery and quarrying for building and dimension stone. Good position for right man. State experience and salary expected. Address Milwaukee, care ROCK PRODUCTS.

GOOD POWDER MAN.

Wanted—For Rock Crushing Plant. Steady employment and good wages to the right man. References required. Address 827, care ROCK PRODUCTS.

SUPERINTENDENT.

Wanted—A competent superintendent for a Silica Rock Crushing Plant, with Crusher Rolls and Dryer. Capable of Crushing and Loading 600 Tons per day. We want a man who thoroughly understands making sand for steel Moulding. Apply, stating salary expected, and give references.

RIDGEVIEW SAND CO., Oil City, Pa.

EMPLOYMENT WANTED

WANTED

Position as superintendent of Lime or Crusher Plant. Twelve years' experience. Successful in handling men. Results guaranteed. References furnished.
Address X. Y. Z., care ROCK PRODUCTS.

OFFICE MAN OR MANAGER.

Wanted—Position by young man now employed, thoroughly acquainted with the plaster or builders' supply business. Have been employed several years as general manager for manufacturing concern. Am able to take full charge of office.

Address S. C. K., care ROCK PRODUCTS.

STONE AND CRUSHER MAN.

First class all around stone and crusher man. Ten years' experience. Wants position. Best references.

Address J. H. BURNS, Box 82, Warrenville, Ill.

FOREMAN.

Position wanted as Foreman to take charge of Stone Crushing Plant. Experienced and first class references.

F. C. OLIVER, Waterville, Ohio.

SUPERINTENDENT.

Wanted, position as superintendent or engineer in gypsum plaster mill. Fifteen years' experience and thoroughly understands the details of manufacturing plaster. Can furnish best of references as to character and ability.

Address CHAS. VERNIAUD, R. F. D. 30, Eagle, Mich.

SALESMAN.

Position wanted as salesman for cement, lime or wall plaster, for New York, New Jersey or Pennsylvania, by a gentleman 33 years of age. Seventeen years on the road. Thoroughly acquainted with the trade and can make good. Address

"LIVE WIRE," care ROCK PRODUCTS.

MATERIAL FOR SALE

RUBBER CONVEYOR BELT.

Two pieces rubber conveyor belt, each 215 feet long, 18 inches wide, 5 ply and 1/8" extra rubber on one side. New and at factory in Chicago. Make us an offer.

A. M. BLODGETT CONSTRUCTION CO., Kansas City, Mo.

MACHINERY WANTED

MIXER.

Wanted, second hand Broughton mixer. Address with description and price. A. W. C., Room 1009, 30 Church St., New York City, N. Y.

MACHINERY FOR SALE

THE BEAL CORE DRILL.

The best, cheapest and most effective core drill for testing quarries, coal and mineral lands. Brings a solid core, from 2 to 4 inches in diameter to the surface, showing the different formations it passes through. Records of each hole furnished. Correspondence solicited.

Address, EDWIN S. BEAL, 214 Woodlawn Ave., Lansing, Mich.

NOTICE.

I have a complete outfit of Miracle Double Air Space Cement Block Machinery, to furnish a complete house, for sale. Only used for one building. Worth $400.00. Will sell at $150.00.

A. J. TRUWE, Hamburg, Minn.

THEW SHOVEL.

For Sale—No. 3, overhauled, first class shape. Also narrow and standard gauge locomotives. Address Southern Iron & Equipment Co., Atlanta, Ga.

PLANT FOR SALE

QUARRY FOR SALE.

20 acres of finest limestone in Iowa, located near Mt. Pleasant on main line C., B. & Q. Ry., within 35 miles of two cities of 30,000 people, partially opened, for sale, lease or partnership; 65 ft. face, water for hydraulic stripping; local capital available. Owners too busy to give personal attention or to develop.

Address LEROY A. KLING, Box 14, Cedar Rapids, Ia.

BUSINESS OPPORTUNITIES

PATENTS SECURED FOR INVENTIONS.

C. L. Parker, ex-examiner U. S. patent office, 956 G St., Washington, D. C. Write for inventor's handbook.

BUY THE U. S. CHAMPION "CEMENT SHINGLE MACHINE"

and make cement shingles on odd hours, or start an independent business. For durability and attractiveness our roofing supersedes all others. Little investment; big profit. Write for our new illustrated catalog.

L. HANSEN & CO., 2036 Penn St., Kansas City, Mo.

CAN YOU USE

McCully No. 8 Crusher with Elevator and Screen.
Gates No. 6 Crusher, Manganese Fitted.
Austin No. 5 and No. 3 Crushers; Plant Complete.
Small Jaw Crushers and Rolls.
Kent Mill with Elevator and Screen.
McMyler 20-Ton Locomotive Crane, 45' Boom, 1½ yd. Clam.
Browning Size No. 1 Locomotive Crane, 40' Boom and Bucket.
Browning Size No. 6 Locomotive Crane, 38' Boom and Bucket.
Baldwin 24-Ton, 14x22, Standard Gauge Switcher.
Grant 20-Ton 36-inch Gauge Saddle Tank Locomotive.
Porter 36-Inch Gauge 13-Ton 9x14 Locomotive.
Porter 36-Inch Gauge 10-Ton 7x12 Locomotive.
All makes and sizes of Steam Shovels.
Special Bargain in a 2-yard Drag Line Excavator with 80-Foot Boom.
Hoisting Engines, Orange Peel and Clam Shell Buckets, Dump Cars, Light Rail, Rock Drills, Air Compressors, Pumps, Engines, Boilers, Concrete Mixers, etc.

WILLIS SHAW MACHINERY CO.,
39 South La Salle Street, - CHICAGO, ILL.

F. A. Jones, M. E.
Gypsum Specialist

Consulting, Mechanical and Chemical Engineer, in Designing, Construction and Operation of Plaster Mills, (Kettle or Rotary Process), Elevating, Conveying and Crushing, Mechanical Drying, (Kiln or Rotary) and Hydrating Plants, Power Houses, Pumping Stations and Water Powers.
Examination, Tests, Analysis and Reports, Plans, Specifications and Superintendence of Construction.

311-C FEDERAL BLDG.
YOUNGSTOWN, OHIO.

CURRIE & McLAREN
CONSULTING ENGINEERS
N. W. Cor. 12th and Spruce Sts., Philadelphia, Pa.
PLANTS DESIGNED OR REMODELED

DR. OTTO SCHOTT
Consulting Engineer and German Cement Expert
You are invited to visit our booth at the New York Cement Show, Madison Sq. Garden, Jan. 29-Feb. 3.
Office: Fifth Avenue Bldg., Madison Square, New York

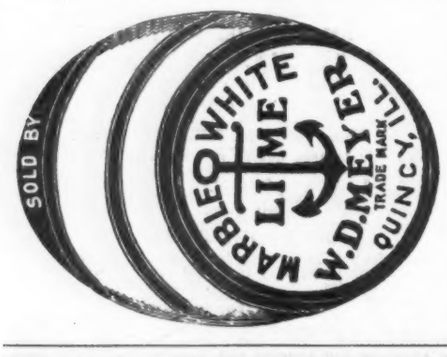
BUREAU OF
Associated Geological Engineers
(MYRON L. FULLER, FREDERICK G. CLAPP, ETC.)
Reports on Bridge and Dam Foundations, Cement Structural Materials, Analyses, Tests, Etc.
Board of Trade Bldg., 131 State St. BOSTON, MASS.

Patents and Trade-Marks
Personal, Expert Services Fair and Reasonable Rates 25 Years Before United States Patent Office
C. T BELT, Warder Bldg., Washington, D. C

Continuous and Double Air Space Building Blocks

Eighty Page Concrete Machinery Catalogue FREE.

FRANCIS MACHINERY CO., 4 Market St., St. Louis, Mo.



Stone Crushing and Power Plants.

DESIGNED AND ERECTED
Special reports made on Quarries and Plants not producing results.

PRESTON K. YATES, Consulting Engineer — 30 CHURCH ST. N. Y. C.

FOR THE WALLS OF THE WEST
USE NEPHI PLASTER
THE DEPENDABLE BRAND

For sale by the most prosperous dealers in every community throughout the Pacific Coast and Rocky mountain states. Highest grade Hardwall, casting, finishing, dental and land plaster. Used in the highest class structures throughout the west for more than twenty years. Time has told the story. Hard, permanent, enduring.
Made from the largest and purest deposit of gypsum in the world. Write for free booklet.

NEPHI PLASTER & MANUFACTURING CO.
Main office, Boston Building, SALT LAKE CITY, UTAH

THE BEST LOCATION FOR CLAY WORKERS

The raw materials of kaolin, ball clay, stoneware clay, slip clay, sagger clay, feldspar, and silica are all found in various parts of the Southeastern States, in ample quantities to supply the largest possible demands. **Fuel is amply and cheaply supplied in the Southeast.** In 1908 the U. S. Geological Survey estimated that the four states of Georgia, Alabama, Tennessee, and Kentucky contained an available supply of coal totaling over 69-½billion tons, and the average price at the mine in 1909 for the four states was $1.15 per ton, the fuel and coking values of this coal being unsurpassed. Natural gas is also available in some sections at extremely **reasonable rates.** Close investigation will satisfy interested parties that the Southeast is the best location for such industries. Write

M. V. RICHARDS, Land and Industrial Agent, Southern Railway, Room 1006 Washington, D. C. or CHAS. S. CHASE, Agent, Room 702 Chemical Bld'g, St. Louis, Mo.

GOOD ROADS CONSTRUCTION CO.
General Offices, Exchange Bldg., Memphis, Tenn.
Our Quarry Facilities are of the Best.

We build municipal street work, turnpikes and give attention to all construction work of a similar character. Our organization is backed by twenty-five years experience, and we are in a position to furnish specifications and estimates promptly. Individuals, Corporations or Municipal authorities are invited to correspond with us.

"The Public Be Pleased"

JAS. B. MACNEAL & CO. CALVERT MORTAR COLOR WORKS BALTIMORE

Reds Browns Yellow Blacks

CALVERT MORTAR COLORS

Sold to Dealers Only

JAS. B. MACNEAL & CO., Makers

BALTIMORE, MARYLAND

Write for Our COLOR Barometer

Anchor Brand Colors

For Mortar, Cement and Brick

Brown, Black, Red and Buff

Strongest and Most Durable

Manufactured by C. K. Williams & Co.

Correspondence Solicited Easton, Pa., U. S. A.

IMPORTANT

Advertisers—Take Notice

Changes of Copy

Must be in this office by the Fifteenth of the month, if proofs are desired; if no proofs are required the desired changes can be made if copy is received by noon of the Nineteenth.

New Advertisements

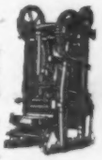
To insure proper classification, should be in this office by the Fifteenth of the month, but they can be inserted in the last form going to press if received by the Ninteenth. The punctual publication of the paper admits no deviation from these rules. Advertisers are earnestly requested to co-operate with us.

THE FRANCIS PUBLISHING COMPANY

537 South Dearborn Street, Chicago, Ill.

THE HENRY MARTIN BRICK MACHINE MFG. CO.

LANCASTER, PENNA.



ROCK CRUSHING MACHINERY
BRICK-MAKING MACHINERY
CLAY-WORKING APPLIANCES
CEMENT BRICK MACHINERY
SAND GRINDING MACHINERY
SAND DRYERS, BRICK DRYERS, ETC.

SEND FOR PLANS AND ILLUSTRATED CATALOGUE

"K & J" CARS FOR QUARRIES

"K & J" CARS FOR QUARRIES

"K&J"

An extremely heavy skip. Length, 10 feet; width, 4 feet; depth, 4 feet 3 inches; all inside dimensions. Capacity 165 cubic feet.

We Build Every Type of Car that Quarry Work Demands.

Get Booklet "Some Car Suggestions."

"K & J" Cars are built for "Continuous Service."

The Kilbourne & Jacobs Mfg. Co.

Plant and General Offices, COLUMBUS, O. NEW YORK 26 Broad St.

Some Bargains in Quarry Equipment

One No. 3 Style "D" Gates Crusher.
Two No. 3 McCully Crushers manganese fitted.
Two No. 5 McCully Crushers manganese fitted.
Two No. 6 Style "D" Gates Crushers.
Four No. 6 Style "K" Gates Crushers.
One No. 10 McCully Crusher.
One No. 21 Style "K" Gates Crusher.
One No. 3 Austin Stone Screen and Elevator.
One No. 5 Austin Stone Screen and Elevator.

Six 2-yard Steel Quarry Cars, end dump.
One Complete No. 8 Crushing Plant.
One 6¼ x 10 American Hoisting Engine D. C. D. D.
One No. 0 Thew Shovel with ⅝-yard dipper.
One Model 20 Marion Shovel, with 1¼-yard dipper.
One 70-ton Vulcan Shovel.
One 95-ton Bucyrus Shovel.
One 10-ton McMyler Locomotive Crane.
Two 20-ton McMyler Locomotive Cranes, 8 wheels.

Write for Our December Bulletin of Bargains in Heavy Equipment Before You Buy. A Postal-Card Brings It.

MARSH COMPANY, 971 Old Colony Building, CHICAGO, ILLINOIS

ROCK PRODUCTS

Index to Advertisements

JANUARY 22, 1912

Aetna Powder Co. 17
Allen, Edgar, American Manganese Steel Co. 44
Allis-Chalmers Co. 9
Alpha Portland Cement Co. 2
Aluminate Patents Co. 15
American Cement Co. 84
American Clay Machine Co. 83
American Fabric Belt Co. 65
American Locomotive Co. 16
American Process Co. 18
American Steel Fdy. 68
American Steel & Wire Co. 64
American Well Works, The 70
Atlas Car & Mfg. Co. 84
Atlas Portland Cement Co. 84
Auditorium Hotel 82
Austin Mfg. Co. 61
Automatic Weighing Machine Co. 42

Bacon, C. Earl 66
Barrett Mfg. Co. 59
Bartlett, C. O., & Snow Co., The 65
Beckley Perforating Co. 69
Belt, C. T. 56
Bonnot Co., The 63
Books for the Trade 77
Buckbee, J. C., Co. 66
Buffalo Wire Works Co. 68
Buhler, Edw. E., Co. 10
Bureau of Associated Geological Engs. 56
Butterworth & Lowe 72

Cabot, Samuel, Inc. 18
Caldwell, H. W., & Son Co. 64
Canada Cement Co. 2
Carolina Portland Cement Co. 1
Century Cement Mach. Co. 82
Chalmers & Williams 61
Chase, Chas S. 56
Chattanooga Paint Co. 82
Chicago Belting Co. 1
Chicago Portland Cement Co. 42
Chicago Structural Tile Co. 79
Chrome Steel Works 61
Classified Business Directory 58
Clinton Metallic Paint Co. 82
Concrete Stone & Sand Co. 81
Coplay Cement Mfg. Co. 42
Cross Eng. Co. 68
Cummer & Son Co., F. D. 18-75
Currie & McLaren 56
Cyclone Quarry Drill Co. 70

Dakota Plaster Co. 75
Davenport Loco. Works 83
Dexter Portland Cement 1
Dull & Co., Raymond W. 67
Dunning, W. D. 83
DuPont Powder Co. 17

Ehrsam, J. B., & Sons, Mfg. Co. 74
Eureka Stone & Ore Crusher Co. 66

Farnham Cheshire Lime Co. 16
Farrell Fdy. Mche. Co. 66
Fisher Hyd. Mchy. Co. 80
Fowler & Pay 16
Francis Mchy. Co. 56
French, Samuel H., & Co. 1
Fuller Eng. Co. 16

Gandy Belting Co., The 65
Good Roads Construction Co. 56
Gardner Crusher Co. 62

Harbison-Walker Refractories Co. 1
Howells Mining Drill Co. 70
Hunt, Robt. W., Co. 42

Imperial Hotel 60
Improved Equipment Co. 15
Ironton Portland Cement Co. 2

Jeffrey Mfg. 9
Johnson & Chapman Co. 69
Jones, F. A. 56

Kansas City Pt. Ct. Works 41
Kelley Island Lime & Trans. Co. 12
Kent Machine Co. 61
Kent Mill Co. 71
Kilbourne & Jacobs Mfg. Co. 57
King, J. B., Co. 76-78
Knickerbocker Pt. Ct. Co. 8
Kritzer Company, The 14

Lehigh Portland Cement Co. 2
Lewiston Fdy. & Mche. Co. 66
Longest Bros. Co. 44
Louman, A. H. 13
Louisville Fire Brick Works 82

McDonnell Boiler and Iron Works 72
McLanahan Stone Mchy. Co. 66
Macneal, Jas B., & Co. 57
Main Belting Co. 65
Marblehead Lime Co. 13
Marion Steam Shovel Co. 71
Marsh Co. 57
Martin, Henry, Brick Machine Mfg. Co. 57
Maumee Chemical Co. 44
Meacham & Wright 42
Meyer, W. D. 56
Miller, Clifford L., & Co. 12
Miscampbell, H. 16
Mitchell Lime Co. 12

National Lime & Stone Co. 12
National Mortar & Supply Co. 13
National Retarder Co. 75
Nephi Plaster & Mfg. Co. 56
Niagara Gypsum Co. 77
Northwestern States P. C. Co. 2
Nuttall, R. D., Co. 64

Ohio and Western Lime Co. 13
Ohio Post Mold Co. 80
Ottawa Silica Co. 1-43

Pennsylvania Crusher Co. 2
Pettyjohn Co., The 82
Phoenix Portland Cement Co. 1
Plymouth Gypsum Co., The 75
Power & Mining Mchy. Co. 4

Raymond Bros. Impact, Pul. Co., The 7
Read & Morrill, Inc. 82
Reeb, M. A. 78
Richards, M. V. 56
Ricketson Mineral Paint Wks. 78
Ruggles-Coles Eng. Co. 17

Sackett Screen & Chute Co., H. B. 69
Salisbury, W. H., Co. 65
Sandusky Portland Cement Co. 18
Scioto Lime & Stone Co. 13
Schott, Dr. Otto 56
Security Cement & Lime Co. 41
Shaw, Willis, Machinery Co. 56
Sherwin-Williams Co., The 10
Shoemaker & Casparis 67
Shuart-Fuller Mfg. Co. 75
Simpson Cement Mold Co. 44
Sioux City Cement Machinery Co. 80
Smidth, F. L. 66
Smith, T. L., Co., The 5
Southern Rwy. Co. 56
Spackman, Henry, Eng. Co. 18
Stand Pt. Cement Co. 1
Standard Scale & Supply Co. 10
Stephens-Adamson Mfg. Co. 43
St. Louis Portland Cement Co. 41
Sturtevant Mill Co. 68
Superior Portland Cement Co. 43
Symons Bros. 6

Taylor Iron & Steel Co. 68
Titan Steel Casting Co. 68
Troy Wagon Works Co. 70

Union Mining Co. 1
Union Sand & Material Co. 41
United States Gypsum Co. 73
Universal Portland Cement Co. 41
Urschel Bates Valve Bag Co. 72

Wadsworth-Howland Co. 11
Weber Subterranean Pump Co. 11
Webster Mfg. Co. 66
West Jersey Bag Co. 41
Whitehall Portland Cement Mfg. Co. 42
Williams, C. K., & Co. 57
Williams Contractors' Supply Co. 65
Williams Patent Crusher and Pulverizer Co. 6-63
Wolverine Portland Cement Co. 2
Worrell, S. E. 18

Yates, Preston K. 56
York Hotel 9

CLASSIFIED BUSINESS DIRECTORY

AUTOMOBILE TRUCKS.
Longest Bros. Company.

BAGS.
Urschel Bates Valve Bag Co.
West Jersey Bag Co., The

BAG TYERS.
Miller & Co., Clifford L.

BALL MILLS.
Power & Mining Mchy. Co.

BELTING.
American Fabric Belting Co.
Chicago Belting Co.
Gandy Belting Co.
Main Belting Co.
Salisbury & Co., W. H.
Stephens-Adamson Mfg. Co.
Webster Mfg. Company.

BRICK.
Harbison-Walker Refractories Co.
Improved Equipment Co.

BUCKETS, DUMPING AND GRAB.
Atlas Car & Mfg. Co.
Kilbourne & Jacobs Mfg. Co.
Sackett Screen & Chute Co., H. B.

BUILDERS' SUPPLIES.
Sackett Screen & Chute Co., H. B.

CEMENT BRICK MCHY.
Bartlett, C. O., & Snow Co.
Martin-Henry Brick Machine Mfg. Co.

CEMENT HYDRAULIC.
Carolina Portland Cement Co.
Fowler & Pay.

CEMENT MCHY.
Allis-Chalmers Co.
Bonnot Co., The.
Cummer, F. D., & Son Co.
Jeffrey Manufacturing Co.
Kent Mill Co.
Miscampbell, H.
Power & Mining Machy. Co.
Ruggles-Coles Eng. Co.
Smidth & Co., F. L.

CEMENT, PORTLAND.
American Cement Co.
Alpha Portland Cement Co.
Atlas Portland Cement Co.
Canada Cement Co.
Carolina Portland Cement Co.
Chicago Portland Cement Co.
Coplay Cement Mfg. Co.
De Smet, Geo. W.
Dexter Portland Cement Co.
French, Samuel H., & Co.
Hartranft, Wm. G., Cement Co.
Kansas City Portland Cement Co.
Knickerbocker Portland Cement Co.
Ironton Portland Cement Co.
Lehigh Portland Cement Co.
Meacham & Wright Co.
Northwestern States Portland Cement Co.
Phoenix Portland Cement Co.
Sandusky Portland Cement Co.
St. Louis Portland Cement Works.
Security Cement & Lime Co.
Standard Portland Cement Co.
Superior Portland Cement Co.
Union Sand & Material Co.
Universal Portland Cement Co.
Whitehall Portland Cement Mfg. Co.
Wolverine Portland Cement Co.

CHAINS.
Taylor Iron & Steel Co.

CLAY PRODUCTS.
Harbison-Walker Refractories Co.
Improved Equipment Co.
Louisville Fire Brick Co.
Union Mining Co.

CLAYWORKING MCHY.
American Clay Working Mchy. Co.
Bartlett, C. O., & Snow Co.
Cummer, F. D., & Son Co.

CONCRETE BLOCK MCHY.
Century Cement Mchy. Co.
Chicago Structural Tile Co.
Concrete Stone & Sand Co.
Fisher Hydraulic Stone & Machinery Co.
Francis Machinery Co.
Pettyjohn, The, Co.
Sioux City Cement Mchy. Co.

CONCRETE MOLDS AND FORMS.
Read & Morrill, Inc.
Simpson Cement Mold Co.

CONCRETE MIXERS.
Chalmers & Williams.
Kent Mach. Co.
Miscampbell, H.
Standard Scale & Supply Co.
Williams Contractors' Supply Co.

CONCRETE BEADS.
Carolina Portland Cement Co.

COLORINGS, BRICK AND MORTAR
Chattanooga Paint Co.
Clinton Metallic Paint Co.
Macneal, James B., & Co.
Ricketson Mineral Paint Works.
Williams, C. K., & Co.

CONCRETE POSTS.
Ohio Post Mold Co.

CONCRETE REINFORCEMENTS.
American Steel & Wire Co.
Buffalo Wire Works Co.

CONVEYORS.
Allis-Chalmers Co.
American Fabric Belting Co.
Austin Mfg. Co.
Bartlett, C. O., & Snow Co.
Caldwell, H. W., & Sons Co.
Cross Engineering Co.
Dull, Raymond W., & Co.
Ersham, J. B., & Sons Mfg. Co.
Jeffrey Manufacturing Co.
McLanahan Stone Machine Co.
Power & Mining Machy. Co.
Sackett Screen & Chute Co., H. B.
Shoemaker & Casparis.
Stephens-Adamson Mfg. Co.
Webster Mfg. Company.

CRUSHERS.
Allen Edgar American Manganese Steel Co.
Allis-Chalmers Co.
Austin Mfg. Co.
Bacon, Earl C.
Bartlett, C. O., & Snow Co.
Bonnot Co., The.
Butterworth & Lowe.
Chalmers & Williams.
Chrome Steel Works.
Gardner Crusher Co.
Ehrsam, J. B., & Sons Mfg. Co.
Eureka Stone & Ore Crusher Co.
Jeffrey Manufacturing Co.
Kent Mill Co.
Lewistown Foundry & Machine Co.
Marsh Co.
Martin, Henry.
McDonnell Boiler & Iron Works.
McLanahan Stone Machine Co.
Pennsylvania Crusher Co.
Power & Mining Machy. Co.
Smith, T. L., & Co.
Symons Brothers.
Sturtevant Mill Co.
Taylor Iron & Steel Co.
Williams Contractors' Supply Co.
Williams Pat. Crusher & Pulverizer Co.

CUT GEARS.
Nuttall, R. D., Co.

DRILLS.
American Well Works, The.
Cyclone Quarry Drill Co.
Howell Mining Drill Co.

DRYERS.
American Process Co.
Bartlett, C. O., & Snow Co.
Cummer, F. D., & Son Co.
Power & Mining Machinery Co.
Ruggles-Coles Eng. Co.
Worrell, S. E.

DRYER CARS.
Kilbourne & Jacobs Mfg. Co.
Power Mining & Mch. Co.
Sackett Screen & Chute Co., H. B.

DUMP CARS.
Atlas Car & Mfg. Co.
Austin Mfg. Co.
Kilbourne & Jacobs Mfg. Co.
Power & Mining Machy. Co.
Sackett Screen & Chute Co., H. B.
Stephens-Adamson Mfg. Co.

DUMP WAGONS.
Troy Wagon Works Co.

DYNAMITE AND POWDER.
Aetna Powder Co.
DuPont Powder Co.

ENGINEERS.
Bacon, Earl C.
Buckbee, J. C., Co.
Dull, Raymond W., & Co.
Currie & McLaren.
Bureau of Associated Geological Engineers.
Fuller Engineering Co.
Improved Equipment Co.
Schott, Dr. Otto.
Shoemaker & Casparis.
Smidth & Co., F. L.
Spackman, Henry, Eng. Co.
Yates, Preston K.

FIBRE MCHY.
Shuart-Fuller Mfg. Co.

FIRE BRICK.
Carolina Portland Cement Co.
Harbison-Walker Refractories Co.
Improved Equipment Co.
Louisville Fire Brick Co.
Union Mining Co.

GAS AND GASOLINE ENGINES.
Cyclone Quarry Drill Co.
Power & Mining Mch. Co.

GAS PRODUCERS.
Improved Equipment Co.
Power & Mining Mch. Co.

GOOD ROADS.
Good Roads Construction Co.

GEARS.
Caldwell, H. W., & Son Co.
Nuttall, R. D., & Co.
Taylor Iron & Steel Co.

GYPSUM—PLASTER.
Carolina Portland Cement Co.
Dakota Plaster Co.
King, J. B., & Co.
National Mortar & Supply Co.
Niagara Gypsum Co.
Plymouth Gypsum Co.
Reeb, M. A.
U. S. Gypsum Co.

GYPSUM SPECIALIST.
Jones, F. A., M. E.

HARDENING CYLINDERS.
American Clay Machinery Co.

HYDRATING CYLINDERS.
Kritzer, The, Co.
Miscampbell, H.

HOTELS.
Auditorium, Chicago.
Imperial, New York.
York, New York.

HYDRATING MCHY.
Kritzer Co., The.

LIME.
Carolina P. C. Co.
Farnam-Cheshire Lime Co.
Fowler & Pay.
Kelly Island Lime & Trans. Co.
Marblehead Lime Co.
Meyer, W. D.
Mitchell Lime Co.
National Lime & Stone Co.
National Mortar & Supply Co.
Ohio & Western Lime Co., The.
The Scioto Lime & Stone Co.

LIME, HYDRATED.
Kelley Island Lime & Transport Co.
Marblehead Lime Co.
National Lime and Stone Co.
National Mortar & Supply Co.
Ohio & Western Lime Co., The.
The Scioto Lime & Stone Co.

LIME KILNS.
Improved Equipment Co.

LIME PLASTER.
Aluminate Patents Co.

LOCOMOTIVES.
American Locomotive Co.
Davenport Locomotive Wks.

MANGANESE STEEL.
Allen Edgar Manganese Steel Co.
American Steel Foundries.
Taylor Iron & Steel Co.
Titan Steel Casting Co.

METAL LATH.
Buffalo Wire Works Co.
Carolina Portland Cement Co.

PATENT ATTORNEY.
Belt, C. T

PERFORATED METALS.
Beckley Perforating Co.
Cross Engineering Co.
Johnson & Chapman Co.

PNEUMATIC TOOLS.
Howell Mining Drill Co.

PLASTER MCHY.
Butterworth & Lowe.
Cummer, F. D., & Son Co.
Dunning, W. D.
Ersham, J. B., & Sons Mfg. Co.
Miscampbell, H.
Williams Pat. Crusher & Pulverizer Co.

PULVERIZERS.
Allis-Chalmers Co.
Bonnot Co., The.
Gardner Crusher Co.
Jeffrey Manufacturing Co.
Kent Mill Co.
Pennsylvania Crusher Co.
Raymond Bros. Impact Pulverizer Co.
Sturtevant Mill Co.
Williams Pat. Crusher & Pulverizer Co.

PUMPS.
American Well Works.
Weber Subterranean Pump Co.

RAILROAD MATERIAL.
Allis-Chalmers Co.
Atlas Car & Mfg. Co.
Kilbourne & Jacobs Mfg. Co.
Sackett Screen & Chute Co., H. B.

REINFORCED CONCRETE CURB.
Buhler Co., Edward E.

ROOFING MATERIAL.
Barrett Mfg. Co.
Carolina Portland Cement Co.

SAND.
Ottawa Silica Co.
Union Sand & Material Co.

SAND AND GRAVEL WASHING PLANTS.
Buckbee Company, J. C.
Dull & Co., Raymond W.
Shoemaker & Casparis.
Stephens-Adamson Mfg. Co.
Webster Mnfg. Co.

SAND-LIME BRICK MCHY.
American Clay Working Mchy. Co.
Miscampbell, H.

SCREENS.
Beckley Perforating Co.
Buffalo Wire Works.
Butterworth & Lowe.
Cross Engineering Co.
Dull & Co., Raymond W.
Ersham, J. B., & Sons Mfg. Co.
Johnson & Chapman Co.
McLanahan Stone Machine Co.
Power & Mining Mchy. Co.
Sackett Screen & Chute Co., H. B.
Shoemaker & Casparis.
Stephens-Adamson Mfg. Co.
Sturtevant Mill Co.
Webster Mfg. Company.

SCREEN SECTIONS.
Beckley Perforating Co.
Cross Engineering Co.
Johnson & Chapman Co.

STEAM SHOVELS.
American Locomotive Co.
The Marion Steam Shovel Co.

STEAM SHOVEL TEETH.
Taylor Iron & Steel Co.

STUCCO RETARDER.
Chemical Stucco Retarder Co.
National Retarder Co.
Ohio & Binns Retarder Co.

TUBE MILLS.
Power & Mining Machy. Co.
Smidth & Co., F. L.

WATER PROOFING.
Barrett Mfg. Co.
Cabot, Samuel, Inc.
Carolina Portland Cement Co.
Maumee Chemical Co.
McCormick Waterproof Portland Cement Co.
Sandusky Portland Cement Co.
Sherwin-Williams Co.
Wadsworth, Howland & Co., Inc.

WEIGHING MACHINES.
Automatic Weighing Machine Co.

Amatite ROOFING

AMATITE has a real mineral surface and therefore needs no painting. There have been other ready roofings in the past which had a mineral surface, but they were not practical.

Amatite, however, is successful because the mineral matter is embedded in *pitch*. Pitch is very tough and has great adhesive power. Year after year those roofs will give faultless service without anybody giving a thought to them. This is the kind of roofing to have! The day of these smooth coated roofings that require a heavy coat of paint every year or two is past. They cost too much to maintain. More money can be spent on the paint alone during ten years than a new Amatite roof would cost. A free sample of Amatite Roofing and further information can be obtained by addressing the nearest office.

Everjet Elastic Paint

A very low-priced black paint—very tough and durable. Stands heat so well that it can be used on boilers. For wood or metal, ready roofings, fences, iron work, farm implements, tanks, etc.

BARRETT MANUFACTURING CO.

New York Boston Pittsburgh Kansas City New Orleans Chicago
St. Louis
Cincinnati
Minneapolis
Seattle
Philadelphia
Cleveland

Canadian Offices:
Montreal
Toronto
Winnipeg
Vancouver
St. John, N. B.,
Halifax, N. S.

FOR SALE

ESTABLISHED, PROFITABLE

BUILDERS' SUPPLY BUSINESS

which has age, prestige and dividend producing ability. $100,000 cash will buy it. This cash will be in addition to assuming a mortgage on the property of a business which is salable for $150,000. Ill health is only reason for offering the property.

This is a fine opportunity for a live business man to purchase a profitable business in a good live town.

Address B, Care ROCK PRODUCTS

HOTEL IMPERIAL

Broadway, 31st and 32nd Streets, NEW YORK CITY

ABSOLUTELY FIREPROOF

AEROPLANE VIEW OF THE HOTEL IMPERIAL. 1, THE HOTEL; 2, PENNSYLVANIA STATION; 3, HUDSON TUNNELS TERMINAL; 4, THIRTY-THIRD STREET ELEVATED STATION.

¶ Only one block from the New Pennsylvania station and convenient to New York Central.

¶ The 33rd Street station of the Elevated is across the street, also the newly completed terminal of the Hudson tubes.

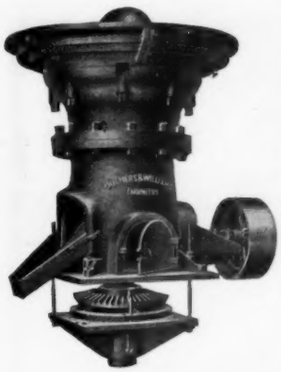
¶ **The Imperial** is the **headquarters** for **members** of the **cement trades** and will be the **headquarters** for ROCK PRODUCTS during the coming convention.

¶ The minimum rate is $2.00 per day.

¶ It is **important that all delegates who expect to be present** during the convention should **engage** their **accommodations** at the **Imperial as early as possible.**

¶ Booklet with tariff on application to Copeland Townsend, Manager.

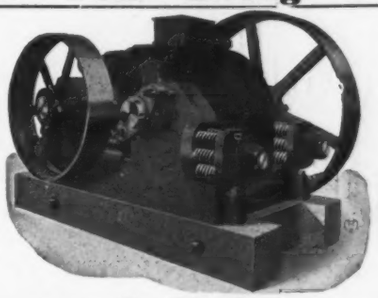
MAKE THIS HOTEL YOUR HEADQUARTERS DURING THE CONVENTION



What Are You Going to Crush?

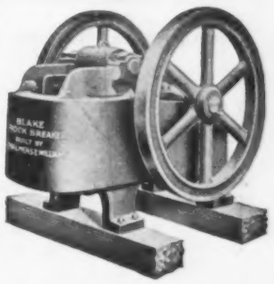
Gyratory Crushers

This is the only perfect Gyratory Crusher, having a ball and socket self-aligning eccentric. Fitted with either manganese steel or chilled iron head and concaves.



Jaw Crushers

Produce large tonnage, occupy small space and consume small amount of power.



Crushing Rolls

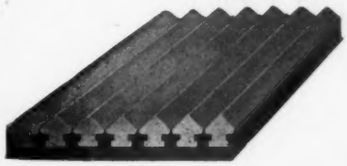
Why not use these rolls to produce fine crushed rock, now so much used for top dressing and fertilizer?

Chalmers & Williams, Inc.

General Office and Works, CHICAGO HEIGHTS, ILL. New York Office, Singer Bldg.

A Tempered Steel Jaw Plate for Blake Type Crushers

CHROME STEEL WORKS
CHROME . N.J. . U.S.A.
(FORMERLY OF BROOKLYN . N.Y.)



Canda Tempered Steel Crusher Jaw Plate

Patented March 31, 1908

The Canda Tempered Steel Jaw Plate for Blake Crushers is composed of Forged and Rolled Chrome Steel Bars, cast-welded and also mechanically interlocked into a backing of tough steel—and the wearing face is tempered to extreme hardness. We are equipped to supply both corrugated and smooth face plates for all sizes and makes of Blake Crushers.

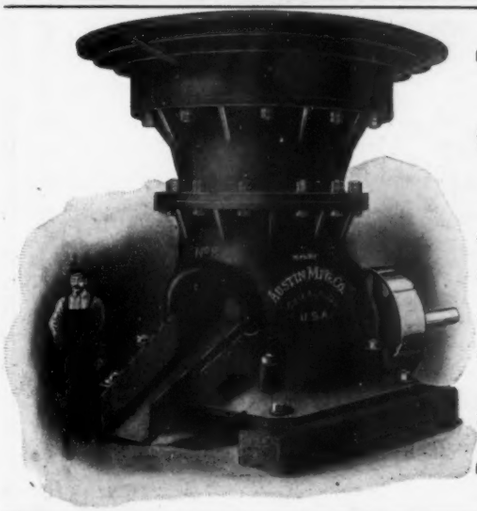
The Canda method of cast-welding forged and tempered steel bars into a mild and tough Steel Backing, is adapted also to the construction of Cone Heads for Gyratory Crushers, Segments for Corrugated Rolls, etc., etc.

Our products in this line are sold with our special guarantee that they *will wear longer, give better satisfaction and, at our price, prove more economical than any others now on the market.*

—Send for Descriptive Pamphlet—

Represented by

J. F. Spellman, 202 Century Building, Denver, Colo. George T. Bond, Easton, Pa. George W. Myers, San Francisco, Cal.



AUSTIN GYRATORY CRUSHER

The World's leading rock and ore breaker.

The only self lubricating Crusher.

The only Crusher having double countershaft bearing.

Simple construction, correct design.

Thousands in use.

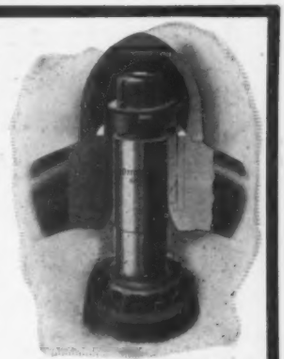
Plans and specifications furnished for any sized plant.

Send for Catalogue No. 17.

All experienced users recognize that the efficiency and durability of the suspension bearing as applied to Gyratory Crushers, depends upon locating the bearing at the point of least gyration or movement of the main shaft.

A perfect suspension can be made only by locating the bearing at the point where there is no movement of the shaft. That being a mechanical impossibility it follows that superiority is obtained in fixing the bearing at the point of least gyration of the shaft.

As the accompanying cut will show, the movement of the shaft at the point of suspension in the Austin Crusher is reduced to the minimum and practically eliminated. Consequently the highest possible degree of efficiency and durability is obtained.



Austin Manufacturing Co., Chicago

Mussens Ltd., Montreal, Can., Canadian Sales Agents.

New York City Office
1682 FULTON BUILDING
Hudson Terminal

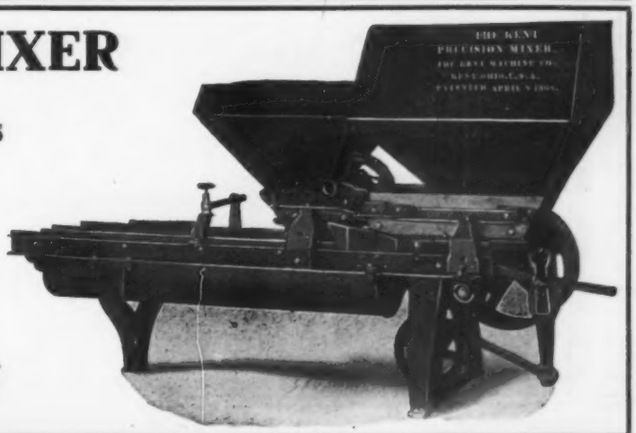
THE "KENT" PRECISION MIXER

(STATIONARY TYPE)

Built in Four Sizes and Suited to ALL CLASSES of Plants Making Concrete Products

The **"Kent"** is the **only mixer made** that will operate with **absolute certainty** when being charged by **gravity** from bins above the hoppers holding large quantities of materials, making it possible to run it continuously for hours at a time with little or no attention from the operator. It has a patented adjusting lever by which the output may be regulated to suit the work in hand. It measures the aggregates accurately in any proportions desired by simply adjusting the gates to the proportions wanted. Before purchasing a mixer investigate the **"Kent."** It means **money** and **satisfaction** for you.

Catalog mailed on request.



THE KENT MACHINE COMPANY

306 NORTH WATER ST., KENT, OHIO

The Gardner Crusher
Disintegrator and Pulverizer

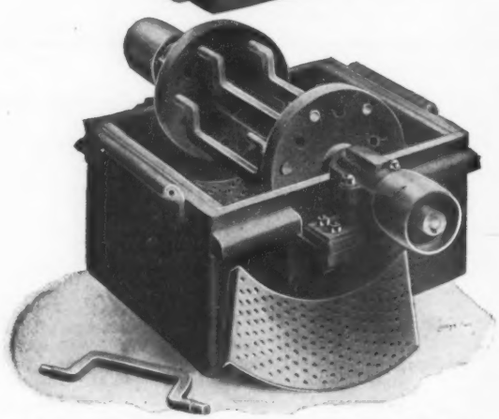
The great advantages of our CRUSHER are the following:

High Productivity **Low Motive Power**
Small Space Occupied **Strong Construction**
Nominal Wear **Any Desired Fineness**
Moderate Prices

The Gardner Crusher Disintegrator and Pulverizer

is adapted for

Cement, Plaster, Quartz, Pyrites, Lime, Pozzolana Earth, Blast Furnace Cinders, Calcareous Stones, Porphyry, Granite, Emory, Corundum, Saggar from Potteries, Scoria, Hammerslag, Construction and Foundry Sand, Phosphates, Ochres, Bones, Sandstone, Silex, Bricks, Coal, Pitch, Glass, Enamels



AN IDEAL PREPARATOR FOR THE TUBE MILL.

TRIALS

In order to give every facility to our customers, we have installed a Crusher for trials at our plant at 532 West 34th Street, New York City. You have only to send us a sample of your crude material and a sample of what you require when crushed. You should also specify the quantity that you desire per hour.

Our experienced engineer is at your disposal for any further explanation. *Send For Catalogue.*

The Gardner Crusher Disintegrator and Pulverizer

has these advantages:

Is the most economical of all Crushers or Pulverizers.

Its price is very moderate.

Its capacity for pulverizing is enormous compared to its size and power required.

The *Gardner Crusher* requires no special foundations and can be put up anywhere.

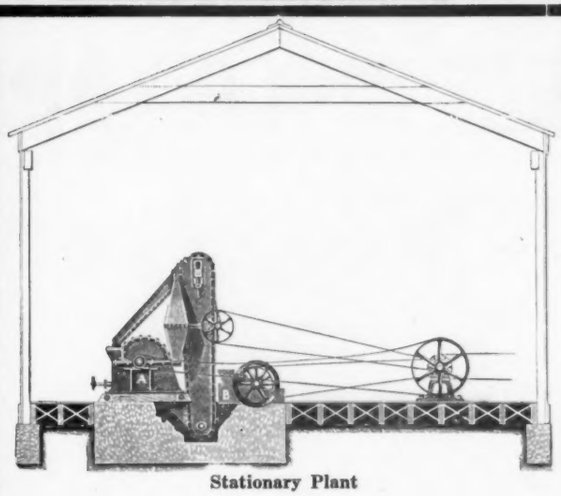
Any fineness required can be obtained by merely changing the screens.

Its weight is very light, so the crusher can be sent to any remote country.

With the *Gardner Crusher*, in some cases, the complete equipment of a crushing plant will be the *Gardner Crusher* and the tube mill. With this kind of an installation the larger machines No. 2 or No. 3 would be used, eliminating the preliminary breaking machines.

GARDNER CRUSHER CO.

532 WEST 34th STREET NEW YORK CITY, U. S. A.



Stationary Plant

Get Into the Game

GRIND YOUR LIMESTONE SCREENINGS AND MAKE LIMESTONE FERTILIZER

What Is Now a Dead Loss to Some Quarrymen
Can Be Turned Into Good Profits

WE FURNISH COMPLETE PLANTS OF ANY CAPACITY DESIRED

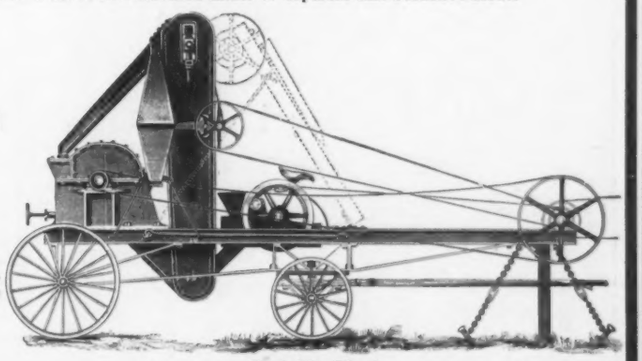
Manufactured and Licensed under 87 Separate and Distinct Patents

We now have over 30 plants in operation

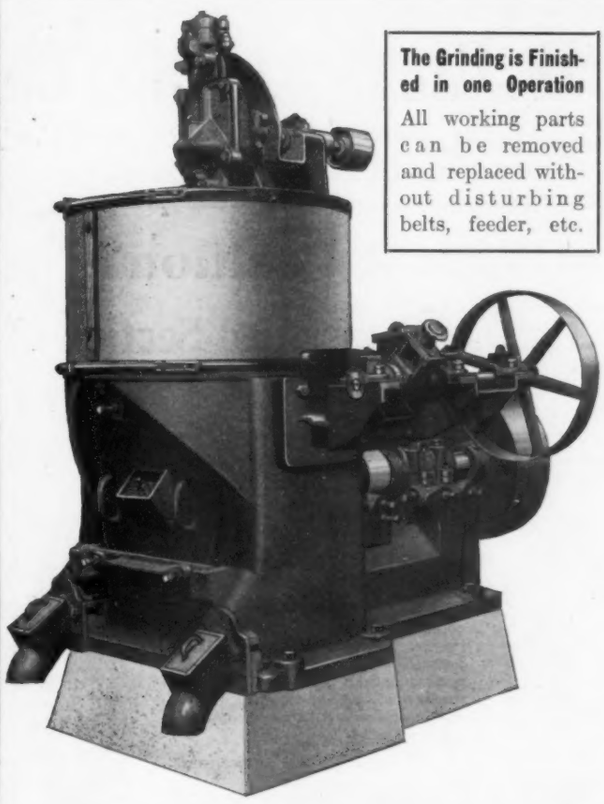
BULLETIN NO. 4 EXPLAINS THE PROPOSITION

The Williams Pat. Crusher & Pulv. Co.

ST. LOUI 2705 N. Broadway
CHICAGO: Old Colony Bldg.
SAN FRANCISCO: 428 Monadnock Bldg.



Portable Plant



The Grinding is Finished in one Operation

All working parts can be removed and replaced without disturbing belts, feeder, etc.

BONNOT PULVERIZER

Grinds and Screens Limestone, Raw Lime and Hydrated Lime

Does it at One Operation. Gives You Any Desired Fineness

GRINDING LIME IS LARGELY A SCREENING PROPOSITION. THE BONNOT PULVERIZER HAS THE LARGEST SCREENING SURFACE AND CONSEQUENTLY THE GREATEST CAPACITY.

NO OTHER MACHINE LIKE IT IN THE ACCESSIBILITY OF SCREEN AND GRINDING PARTS.

No. 4 Catalog Explains These Advantages

THE BONNOT COMPANY

909 N. Y. Life Bldg.
KANSAS CITY, MO.

CANTON, OHIO

Tell 'em you saw it in ROCK PRODUCTS

TRIANGLE MESH CONCRETE REINFORCEMENT

MADE in rolls. Either solid or stranded tension members. A steel fabric of great strength, reinforcing in every direction.

"Engineer's Handbook of Concrete Reinforcement" furnished free upon request.

We Make

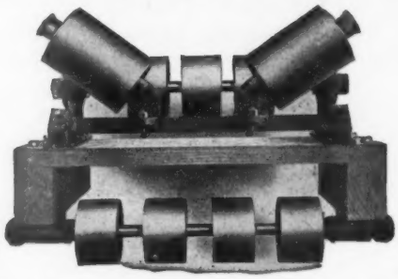
American Wire Rope	Barbed Wire
Aeroplane Wire and Strand	Woven Wire Fencing
Piano Wire	Fence Gates
Mattress Wire	Steel Fence Posts
Weaving Wire	Concrete Reinforcement
Broom Wire	Springs
Fence Wire	Sulphate of Iron
Flat Wire	Poultry Netting
Flat Cold Rolled Steel	Wire Rods
Wire Hoops	Juniata Horse Shoes and Calks
Electrical Wires and Cables	Shafting Cold Drawn Steel
Rail Bonds	Wire of Every Description
Bale Ties, Tacks, Nails, Staples, Spikes	

We issue separate catalog for each of these. Gladly furnished upon application.

American Steel & Wire Co.'s Sales Offices

CHICAGO 72 West Adams Street
NEW YORK 30 Church Street
WORCESTER 24 Grove Street
BOSTON 120 Franklin Street
PITTSBURG Frick Building
CINCINNATI Union Trust Building
CLEVELAND Western Reserve Bldg.
DETROIT Ford Building
ST. LOUIS Third Nat'l Bank Bldg.
MONTREAL Bank of Ottawa Bldg.
ST. PAUL-MINNEAPOLIS Pioneer Building, St. Paul
DENVER First Nat'l Bank Bldg.
SALT LAKE CITY 138 South 3rd West Street
SAN FRANCISCO 16th & Folsom Sts.
PORTLAND Sixth & Irving Sts.
SEATTLE 4th Ave., S. & Conn. St.
LOS ANGELES Jackson & Central Avenues
NEW YORK United States Steel Products Co., 30 Church St. Export Representatives

IMPROVED BELT CONVEYORS



The cost of handling large quantities of material is one of the great problems in any manufacturing plant. To carry **Crushed Stone, Lime, Ore, Clay, Sand, Gravel, Coal,** etc. by **Belt Conveyor** means small first cost with large output at the minimum expenditure of labor.

The above design of **Belt Concentrator** has been found entirely satisfactory in every kind of service. It troughs the belt and at the same time provides proper support where most needed to sustain the weight of material being carried.

The Lubricating arrangement is convenient and thorough and the use of grease for lubrication provides not only the best means of lubricating the pulleys but also has the effect of keeping the bearing surfaces clean and providing a dust-seal around the ends of the pulley hubs.

For other Belt Conveyor devices see our

CATALOG No. 34

We manufacture **Helicoid** and **Screw Conveyors, Chain** and **Cable Conveyors** for handling Rock, Lime, Sand, etc., also **Elevators, Shafting, Couplings, Bearings, Collars, Pulleys, Gears, Sprocket Wheels, Elevator Bolts, etc.**

H. W. CALDWELL & SON CO.

CHICAGO: Western Avenue, 17th to 18th Sts.

NEW YORK: Hudson Terminal, 50 Church St.

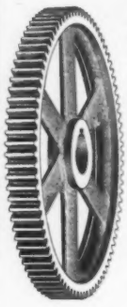
Want A Position?

Use Our Classified Section

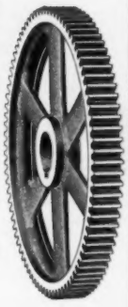
SEE PAGE 56

Nuttall Gearing

is a money saver the moment it is placed in operation



Each Nuttal gear is designed to suit the peculiar conditions under which it is to operate. Our orders for Gear and Pinion material are of sufficient tonnage that the material maker is justified in conforming exactly to our rigid specifications. Superior quality and uniformity of material are thus assured.



We buy them back if not as represented

Nuttall--Pittsburgh

When in a hurry, wire us.

"NESTOR"

SOLID WOVEN WATER PROOF BELTING

BELTING ECONOMY
is not secured alone by low first costs.

EFFICIENCY IN SERVICE
together with reasonable first costs makes

"NESTOR"

the most economical belt on the market for

DRIVES, CONVEYORS, AND ELEVATORS

Let us figure on your requirements
and show you convincing facts.

AGENTS IN ALL PRINCIPAL CITIES KINDLY MENTION THIS PAPER

THE AMERICAN FABRIC BELTING CO.
CLEVELAND, OHIO

LOOK! LISTEN!

LEVIATHAN SPECIAL-BLACK CONVEYOR BELTING

is a new belt that has been on the market but a few months. The demand for it has been so extraordinary that we have not up to the present time been able to meet it.

With our new factory

just finished for the exclusive manufacture of this belt, we are now in position to take all orders, and make prompt shipment. This belt is the wonder of the age for use in stone, sand and gravel plants.

Think of it!

A canvas belt of the LEVIATHAN standard with a practically indestructible ⅛ inch coating on its face to resist the wear and tear of rough materials. Write us for further particulars.

MAIN BELTING CO.

PHILADELPHIA CHICAGO NEW YORK BOSTON PITTSBURG SEATTLE

For Sale in Canada by the Main Belting Co. of Canada, Limited, 41 Common Street, Montreal.

"It looks good on the face of it."

GANDY

Stitched Cotton Duck Belting

HAS THIS EDGE PAINTED GREEN

One more distinctive feature, so that you can recognize at a glance **THE GANDY BELT.**

The rest of the belt will remain red as before, and will continue to bear our brand **THE GANDY BELT,** and our trade mark **A Coil of Belt and a Bale of Cotton Laid Across it,** painted upon the belt at intervals throughout the entire length of the roll.

We take these precautions in order to protect you against the many imitations that unscrupulous dealers have endeavored to palm off as **THE GANDY BELT.**

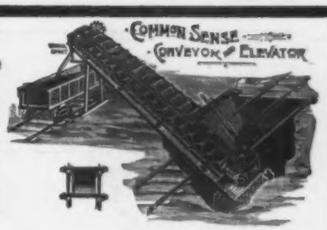
Remember the first cost of **THE GANDY BELT** is only about one-third as much as leather belting, and about two-thirds as much as rubber belting, yet it will do the work equally as well.

It has justly earned its present reputation of being the most durable and economical belting for driving, elevating and conveying.

We will gladly send you samples and prices. Give **GANDY** a trial. We can save you money on your belt purchases.

THE GANDY BELTING CO.
744 W. Pratt Street : Baltimore, Md.
New York Office: 88-90 Reade Street

Send for Catalog 25



THE GENERAL CRUSHED STONE CO.,
So. Bethlehem, Pennsylvania,

have been using one of our **Common Sense Elevators** for six years—capacity 400 tons an hour.

THE C. O. BARTLETT & SNOW CO. CLEVELAND OHIO

"R. F. & C." Solid Woven Rubber Belt

Eliminates every rubber belt defect. Send for pamphlet "A Wireless On Rubber Belting."

W. H. SALISBURY & CO., Dept. R
CHICAGO Established 1855 ILLINOIS

FOR IMMEDIATE SHIPMENT NEW AND REBUILT MACHINERY FOR CONTRACTORS AND QUARRY EQUIPMENT.

Two Rebuilt Western and Two Rebuilt New Era Elevating Graders, good as new. Twenty Rebuilt Western Wagons. Three 13-Ton Stone Bins. Two No. 2 Gates Crushers "D" Style. Rebuilt Jaw Crushers and Reversible Road Machines of Standard Makes.

HEADQUARTERS FOR Concrete Mixers, Wheelbarrows, Gasoline Engines, Gyratory and Jaw Crushers, Cars, Hoists and everything in Quarry Equipment. Write us for catalog and prices.

THE WILLIAMS CONTRACTORS' SUPPLY CO., Columbus, Ohio.

Gravel Washery Recently Installed By Webster

For Gallagher Bros. Sand and Gravel Co. Port Washington, L. I. Capacity 3,000 Yards Per Day

For Supplying Washed Sand and Gravel for Some of the Largest Construction Contracts in New York and Vicinity.

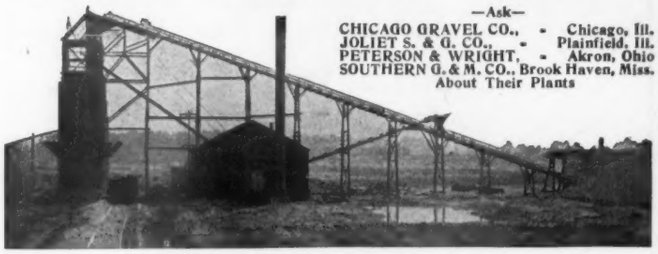
Twelve screens are used, each 4 ft. in diameter by 16 ft' long, fed by two 24-in. belt conveyors, all driven by rope drive from 100-h. p. engine and by heavy riveted chain drives over steel sprockets. This entire equipment was designed and installed by Webster.

Send us your specifications and let us figure on your work. Write our nearest office.

THE WEBSTER M'F'G COMPANY

NEW YORK 88-90 Reade Street. TIFFIN, OHIO CHICAGO 815-817 Fisher Bldg.

GRAVEL WASHING PLANTS



—Ask—
CHICAGO GRAVEL CO., - Chicago, Ill.
JOLIET S. & G. CO., - Plainfield, Ill.
PETERSON & WRIGHT, - Akron, Ohio
SOUTHERN G. & M. CO., Brook Haven, Miss.
About Their Plants

Stone Crushing Cement and Power Plants

J. C. Buckbee Company, Engineers, CHICAGO

FARREL ORE AND ROCK CRUSHER

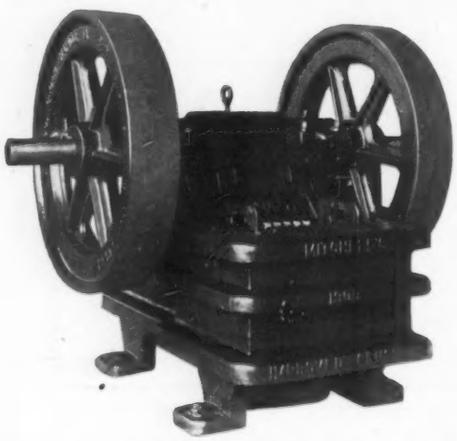
USED IN ALL PARTS OF THE WORLD—LARGE RECEIVING CAPACITY—SPECIALLY DESIGNED AND CONSTRUCTED FOR HARDEST KIND OF WORK

COMPLETE CRUSHING PLANTS OUR SPECIALTY

• SEND FOR CATALOGUE •

EARLE C. BACON, ENGINEER.

FARREL FOUNDRY & MACHINE CO. HAVEMEYER BUILDING, NEW YORK



There Are Reasons for Mitchell Crusher Superiority

Study the cross sectional view of the Mitchell Crusher and you will see at a glance why it is different from any other crushing machine. The motion of the movable jaw tends to produce a more uniform product with a very great saving in power. The crusher is *adjusted in a jiffy* to produce *material in any size* from 2½" even as fine as sand.

There are only 14 parts which greatly eliminates the possibility of wear and breakage. We can show you where you can profit by using a Mitchell Crusher.

State your proposition clearly. Let us know what you have to crush, how fine you want to crush it, and what capacity you can use in a 10 hour day.

You will be glad to have our 60-page catalog describing our 15 sizes. Send for catalog 7 R.

EUREKA STONE AND ORE CRUSHER CO.
CEDAR RAPIDS, IOWA

SINGLE ROLL CRUSHERS

For Limestone, Phosphate Rock, Cinder, Etc.

CAPACITIES FROM 10 TO 500 TONS PER HOUR

More easily fed and makes less fines than either a jaw or gyratory crusher. Information and prices for the asking.

WE ALSO MANUFACTURE Double log washers, Ore jigs, Screens, All iron Elevators and Conveyors. Write for catalogue.

McLanahan-Stone Machine Co. Hollidaysburg, Penna.

Lewistown Foundry & Machine Co.

LEWISTOWN, PA.

Builders of heavy duty crushers and glass sand machinery. Glass sand plants equipped complete.

WRITE FOR PRICES AND CATALOG.

F. L. SMIDTH & CO. 50 Church St. NEW YORK

SPECIALISTS IN

Engineering Cement Works

AND

Cement Making Machinery

Sand and Gravel, Washed and Screened,

Can Now Be Placed in Separate Cars Cheaper Than You Used to Load Bank-Run Gravel, If You Use Modern Equipment.

Every owner of a gravel pit, every concrete man who has sand and gravel on his property, can make this material show a good profit by so handling it as to make it good material for concrete work. It's all in the handling. If you can dig the gravel economically, wash it free from clay, loam and other impurities, and deliver it with sand and gravel screened apart, you can command a better price.

Improved Automatic Elevators

Will Dig, Wash, Screen and Load Sand and Gravel for Less Money Than Any Other Known Device.

The machine shown here is working on a bank of gravel, cleaning the face. In operation, the elevator, which runs by its own power, stands on one track, discharging sand into cars on the next track and gravel into cars on a third track. Material may be delivered in this way, or bank run may be loaded into the cars.

Get Our Booklet on the Economical Production of Sand and Gravel
Copy Sent to Any Address

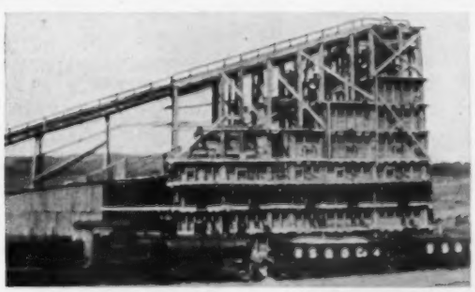
SHOEMAKER & CASPARIS
NEWCOMERSTOWN, OHIO

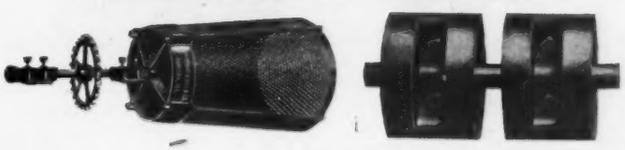
Any One Interested in Excavating and Screening Sand and Gravel for Concrete Work, Please Address:
W. D. Beers, Engineer, for Shoemaker & Casparis, Room 701, 537 So. Dearborn St., Chicago, Ill.

We Equipped More **GRAVEL WASHING PLANTS** During 1911 Than Any Other Company

WE MADE GOOD ON ALL

Stone Crushing Plants
Sand and Gravel Plants
Lime Plants
Conveying Systems





Can You Imagine Anything Better

Than a Plant Equipped with the Improved Conical Quick-Change Washing Screens, Handy, Efficient, Reliable and the Belt Conveyors with Indestructible Heavy Steel Idler Pulleys, and Separating Boxes which Automatically take the Sand from the Muddy Water?

Ask the following people how they like our machinery:

American Sand & Gravel Co. - Chicago, Ill.
Richardson Sand Co. - Chicago, Ill.
Lake Shore Sand Co. - Chicago, Ill.
Atwood Davis Sand Co. - Chicago, Ill.
Mackinaw Sand & Gravel Co. - Lincoln, Ill.
Barnes Sand & Gravel Co. - Portsmouth, Ohio
Reed Sand Co. - Elgin, Ill.
Palmyra Sand Co. - Palmyra, N. Y.
J. E. Carroll Sand Co. - Buffalo, N. Y.
Hinckley Construction Co. - Buffalo, N. Y.
G. W. Bunker Co. - Grand Rapids, Mich.
Atlas Sand & Gravel Co. - Columbus, Ohio

We can possibly refer you to others in your vicinity — Write us.

RAYMOND W. DULL & COMPANY
AURORA, ILLINOIS

TISCO

MANGANESE STEEL

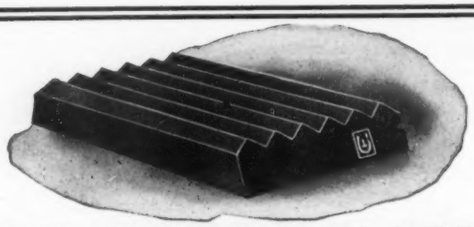
FOR

Ball Mill Plates, Kominuter Plates, Conveyor Chain

and the wearing parts of crushing and grinding machinery. The close grain and combination of hardness and toughness give it wearing qualities combined with strength unequaled in any other material.

Does your banker use a TISCO Manganese Steel Safe?

TAYLOR IRON & STEEL CO.
High Bridge, New Jersey



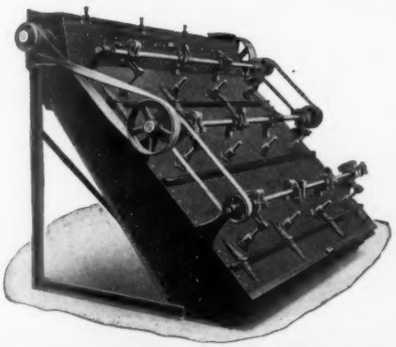
TITAN MANGANESE STEEL

Unequaled for wearing parts of Jaw Crushers, Gyratory Crushers, Cement Machinery, Coal Breaking Machinery, Steam Shovels and Dredges. *Send us your inquiries.*

TITAN STEEL CASTING CO.
NEWARK, NEW JERSEY

CHICAGO RICHMOND SAN FRANCISCO BOSTON

NEWAYGO SCREEN



SCREENS EVERYTHING SCREENABLE

from 4 to 200 mesh.
Less than 1 H. P. to operate. Large Output.

More in use than any other Screen.
From 1 to 78 used by single concerns.

SOLD ON "SALE OR RETURN" CONTRACT

If not satisfactory, even to the color of the paint, may be returned, as per our special "Sale or Return" offer.
Send for Offer and Catalogue.

STURTEVANT MILL CO., Boston, Mass.

TRUE MANGANESE STEEL CASTINGS

Wear Longer
Withstand Shock Better

FOR WEARING PARTS OF:

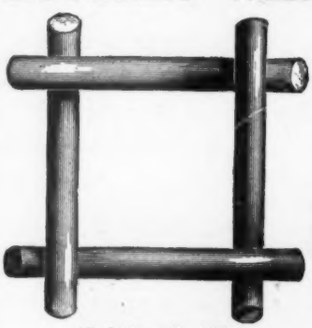
CEMENT MILL MACHINERY, JAW AND GYRATORY CRUSHERS, STEAM SHOVELS, ETC.

Also, Open Hearth Steel Castings and Alloys—Vanadium, Nickel, Etc.

AMERICAN STEEL FOUNDRIES
NEW YORK PITTSBURG CHICAGO ST. LOUIS

BUFFALO WIRE WORKS CO.

BUFFALO, N. Y.



1-Inch Space, No. 4 Wire

We make

Wire Cloth

From the coarsest to the finest, for all purposes,

Also

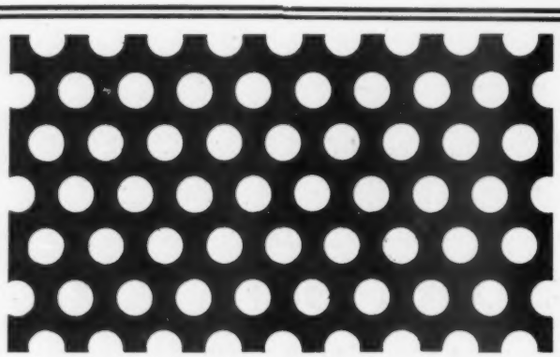
WIRE CONCRETE REINFORCEMENT, WIRE WORK of all kinds, CORRUGATED WIRE "LATHING"

Send for Our No. 416 Catalogue.

PERFORATED METALS

Our Perforated Products have a reputation for accuracy and general high quality, our deliveries are prompt, and prices the lowest. This is why we number among our customers so many of the largest users of Perforated Metals throughout the United States.

WE SOLICIT YOUR INQUIRIES



CROSS ENGINEERING CO.
CARBONDALE, PA.

SCREENS

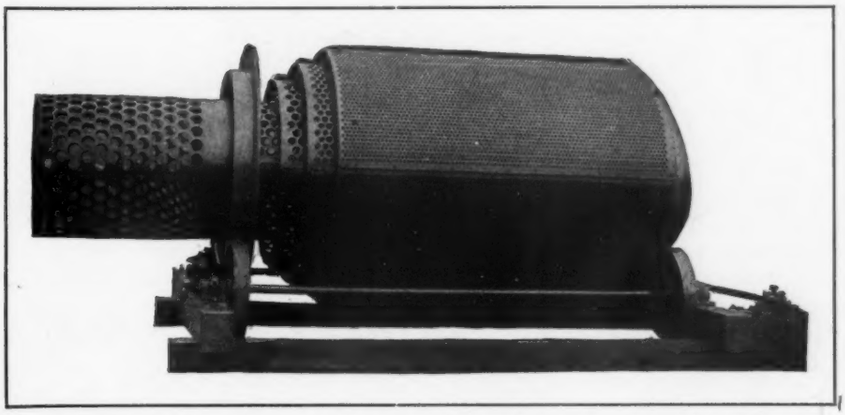
OF EVERY DESCRIPTION
FOR
STONE GRAVEL CEMENT
COAL COKE
ETC, ETC.

SPECIALTIES

MONEL METAL
MANGANESE BRONZE

SEND FOR ILLUSTRATED CATALOG

JOHN O'LAUGHLIN'S SCREEN



made solely by **Johnston & Chapman,** is the

ONLY SCREEN

on the market for wide-awake quarry-men and miners, who want to separate crushed granite, limestone or other minerals, gravel, sand, coal or coke. It will soon earn its cost in saving of repairs, and maintenance, and reduced power, and will do more and cleaner work than any other cylindrical screen of like area.. No one can afford to keep old traps in use when the **O'Laughlin** installed

NOW

will from the moment it starts give a better and larger product, and a big interest on your investement in continuous saving in cost of repairs, renewals, and power. For particulars address:

The advantages of these screens are described in detail in a circular which WE WILL MAIL TO ANY ADDRESS. Mr. John O'Laughlin, the inventor, has designed many notable improvements in rock-drilling, quarrying, crushing and screening machinery, and uses these improved screens in his own crushing plants, which others have declared "to be the most perfect in existence in every detail." The O'Laughlin Screen is an important factor in the most modern and perfect stone-crushing plant.

JOHNSTON & CHAPMAN CO.

Corner Francisco and Carroll Ave., Chicago, Ill.

Perforators of Sheet Metals, Flat, Cylindrical, and Conical Perforated Screen Plates for Quarries, Mines, Reduction Works, Mills and all Industrial Purposes.

SCREENS

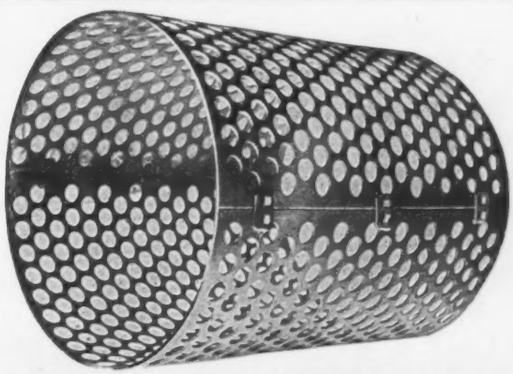
If you are interested in

Perforated Screens

and

Have Tried All the Rest, Why Not Try the Best?

Let us supply you with **our screens,** which are made from a **special Hard Steel,** especially adapted for **stone, ore, gravel, sand, etc.**



IT WILL PAY YOU TO INVESTIGATE

PRICE, MATERIAL and DELIVERIES Are Right

Revolving Screens, Suspension Screens
Trunion Screens, Shaker Screens
Hexagonal Screens, Jump Screens

If you don't see the screen you are looking for here, ask for it. We make it.

We Solicit Your Inquiries

BECKLEY PERFORATING CO., Garwood, N. J.

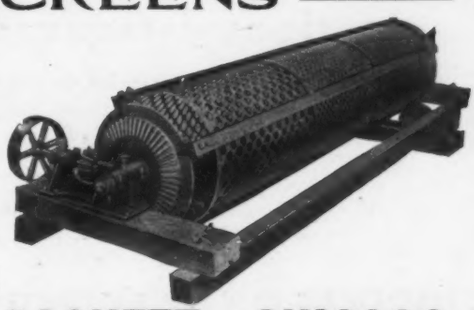
Send for Circular

CARS —— SCREENS —— ELEVATORS

Buckets

Stone

Skips



Switches

Hoists

Portable Track

We are prepared to quote you on anything for your Quarry or Gravel Plant. Before placing your order be sure and get our Catalogue 31-R, and also our Prices and Deliveries.

1679 ELSTON AVENUE

SACKETT---CHICAGO

If you are "from Missouri" or anywhere else "We can show you."

"SACKETT" High Quality, Low Price, Prompt Delivery

Deep Blast Hole Drilling

Is accomplished more economically than by any other method with the

"American" Drilling Machines

There is 40 years' experience behind these drills—they are standard.

Where electric power is available, equipped with motor they form the most portable and economical drill for quarry use.

Equipped with any power they are backed by the experience and reputation of the world's oldest and largest builders of this kind of drilling machinery.

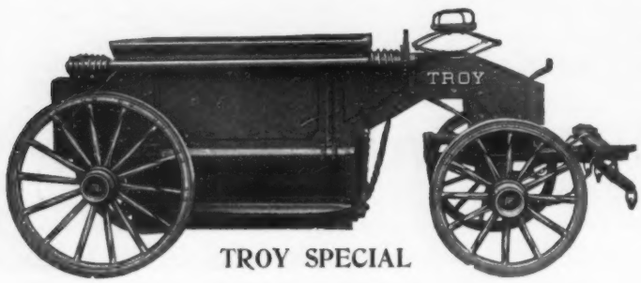
Tell us your blast hole requirements. We have 59 regular styles and sizes of machines for your selection, made in types to meet every possible condition of work.

Write for our new catalog No. 105, the most complete "Drill-Hole" catalog ever issued.

THE AMERICAN WELL WORKS

General Office and Works: AURORA, ILL., U. S. A. Chicago Office: First National Bank Building

The New Year Chuckle

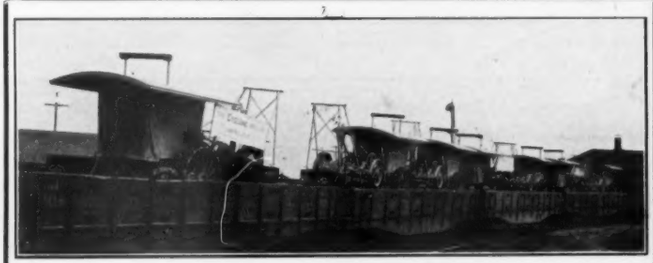


TROY SPECIAL

Get yourself some TROY Specials for 1912. When you see them you will surely chuckle. So will your driver. So will your horses. And the Specials will chuckle every day you own them—a chuckle that shows they're running light and easy. Don't you want the price? ∴ ∴ Get Catalog 2 P.

The Troy Wagon Works Co.

101 E. Race St., Troy, Ohio



Seven No. 14 Traction Drills.

THIS order was placed after trying out one of our drills for fourteen months in competition with seven machines of other makes; the seven other drills were discarded and Cyclones installed in their place.

If the Dolese & Shepard Company of Chicago found it profitable to discard the other machines and buy Cyclones you can save more than half the expense by buying Cyclone drills right from the start.

Why spend money experimenting when the other fellow has done that? We guarantee to drill more holes at less expense than any other drilling machine on the market. If you want us to prove it, just ask our competitors to meet us in your quarry.

THE CYCLONE QUARRY DRILL COMPANY

New York Office, 50 Church St.
Chicago Office, 419 Fisher Bldg.

ORRVILLE, OHIO

HOWELLS' Celebrated Ball Bearing Heavy Geared Post Drills

For boring anything that an Auger will penetrate.

Awarded Gold Medal, St. Louis.

We make 40 different styles machines run by Hand, Compressed Air and Electricity for boring Fire Clay, Coal, Rock, Rock Salt, Gypsum and Plaster Rock. Send today for our handsomely Illustrated Catalogue.

HOWELLS MINING DRILL CO., PLYMOUTH, PA. U. S. A.

(ESTABLISHED 1878.)

Tell 'em you saw it in ROCK PRODUCTS

The Great Cost Reducer in Stripping Over-burden

from Stone Quarries, Phosphate Rock, Coal, or similar other material, and performs the entire work at a single operation without rehandling. These are the important advantages of

THE MARION MODEL 250 REVOLVING SHOVEL

This machine is provided with an extra long boom for making wide cuts and dumping the excavated material far enough to one side so that the rock or stone thus uncovered may be taken out without being partly under the spoil bank. This eliminates the handling of the over-burden in cars and reduces the labor required to the shovel crew.

The uncovered material is mined immediately following the shovel so that when it completes one cut it can return on another, this time depositing the over-burden in the open pit where the coal, for instance, has been taken out.

The Model 250 will handle over-burden of a far greater depth and width of face than the ordinary excavator.

Proof of this economy can be shown where shovels of this type are now in actual operation.

Write for Circular 250, giving more complete information.

The Marion Steam Shovel Co.
Dept. V, MARION, OHIO

CHICAGO: Monadnock Block SAN FRANCISCO: Monadnock Bldg.
NEW YORK: 50 Church Street MONTREAL: F. H. Hopkins & Co.
SEATTLE, WASH.: E. P. Jamison & Co.

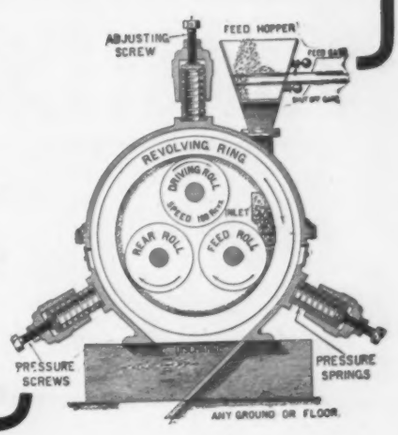
MAXECON

Means MAXimum of ECONomy

Years of experience with the assistance of our hundreds of customers has found THE SOLUTION OF GRINDING HARD MATERIALS. The MAXECON PULVERIZER combines highest EFFICIENCY, greatest DURABILITY and assured RELIABILITY. Uses the LEAST HORSE POWER per capacity. Embodies the features of our Kent Mill with improvements that make it MAXECON.

WE DO NOT CLAIM ALL of the CREDIT for this achievement

We have enjoyed the valuable suggestions of the engineers of the Universal Portland Cemen Co. (U. S. Steel Corp.), Sandusky P. C. Co., Chicago Portland C. Co., Marquette Cement Mfg. Co., Western P. C. Co., Cowham Engineering Co., Ironton P. C. Co., Alpena P. C. Co. Castalia P. C. Co., Pennsylvania P. C. Co., and many other patrons.



THE RING WOBBLES

The FREE WOBBLING POUNDING RING instantly and automatically ADAPTS its position to the variations of work.

Its GRINDING ACTION is DIFFERENT than any other; besides the STRAIGHT rolling action of the rolls, the SIDE to SIDE motion of the ring makes the material subject to TWO crushing forces and DOUBLE OUTPUT results.

KENT MILL CO. 170 BROADWAY, NEW YORK CITY
LONDON, W. C., 31 HIGH HOLBORN
CHARLOTTENBURG 5, WINDSCHEID STRASSE 31, BERLIN

THE
VALVE BAG

The neatest and best package for handling your *cement, lime, plaster, alca, ground stone, etc.*

THE
VALVE BAGGER

A device unequalled for sacking these products. *Your inquiries will have our prompt attention.*

The
Urschel-Bates Valve Bag Co.
TOLEDO, OHIO

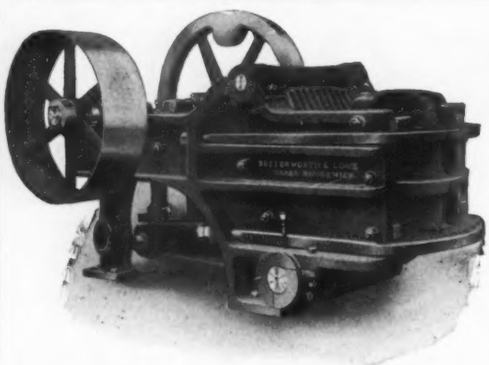
The
Daily Rock Products

will be issued each day during the convention of **The National Builders' Supply Association, The National Lime Manufacturers' Association, The National Sand and Gravel Producers' Association** and the **Second Annual New York Cement Show** which will all be held during the week of January 29 to February 3.

It affords the greatest opportunity ever offered to reach the building material industry.

Advertisements now being contracted for in two or three colors on special enameled paper. Write at once for special prices and full particulars.

ROCK PRODUCTS
537 S. Dearborn St. : Chicago, Ill.
Dailies will also be issued at the Chicago and Kansas City Cement Shows



Nippers—17 x 19", 18 x 26", 20 x 30" and 24 x 36".

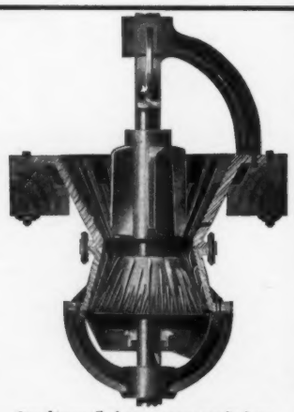
Jaw and Rotary
CRUSHERS

For all Rocks and Ores Softer than Granite

GYPSUM MACHINERY—We design modern Plaster Mills and make all necessary Machinery, including Kettles, Nippers, Crackers, Buhrs, Screens, Elevators, Shafting, etc.

Special Crusher-Grinders for Lime

Butterworth & Lowe
17 Huron Street, Grand Rapids, Mich.



Crackers—5 sizes—many variations.

GET THE BEST
Finest Line of Gypsum Machinery
MADE
KETTLE CRUSHER NIPPERS
ASK FOR CATALOG OF
MOGUL NIPPERS. OPEN DOOR POT CRUSHERS
Best Mills in the United States Have Them
McDONNELL BOILER & IRON WORKS, Des Moines, Iowa, U. S. A.
"Formerly Des Moines Mfg. & Supply Co."

An Open Letter

It Speaks Volumes! Read It.

This letter published by permission

L. P. BUTTS
FERTILIZERS, BUILDERS AND MASONS SUPPLIES
DISTRIBUTOR OF PORTLAND CEMENT.

PORTLAND & ROSENDALE CEMENTS. GLENS FALLS & GRANULATED LIME. FIRE BRICK & FIRECLAY. FACING BRICK. COAST & CATTLE HAIR.

CONTRACTS MADE CONTINGENT UPON INABILITY TO OBTAIN RAILROAD TRANSPORTATION, STRIKES, FIRES, ACCIDENTS AND CAUSES BEYOND OUR CONTROL.

TELEPHONE CONNECTIONS

PATENT WALL PLASTERS. CANADA ASBESTOS. FIBRE. AGRICULTURAL LIME. FERTILIZERS. LAND PLASTER. SHINGLES. LATH. PLASTER PARIS. LIME. KINDLING. CRAIN TILE. LUMBER

ONEONTA, N.Y. November 1, 1911.

United States Gypsum Co.,
Chicago, Ill.

Gentlemen:

You will undoubtedly be interested to know that the new "Oneonta" Hotel has been formally opened and doing a satisfactory business. You will also be pleased to know the results obtained from the U. S. Gypsum Wall Plaster used in this building.

The total amount of base coat was in excess of one thousand tons, and U. S. G. Universal finish was used throughout for the finish coat and gave the best of satisfaction, as well as the first coat, and has caused a great deal of favorable comment.

The writer obtained this contract in competition with several other of the best brands of Wall Plaster made and both the contractor and the owners feel highly gratified by the results of this material.

We also used in the construction of this building eight carloads of U. S. G. "Pyrobar Gypsum Tile" for the fireproof partitions, which we were able to have accepted on account of their superior quality after other Gypsum blocks had been delivered on the job for this work. I consider the selection of your Pyrobar speaks very highly of its superior quality.

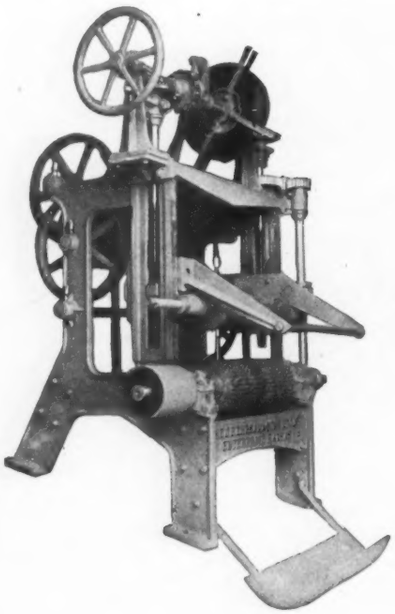
This work was a source of great satisfaction to me and I trust the same to you also.

Yours very truly,

L. P. Butts.

The Logical Lathing Material
The Best in Hard Wall Plaster

U.S.G. Products—
"The Line of Progress"—
Arms the U.S.G. Dealer
with Supremacy in Business-
Pulling Power.



Points of Interest Concerning

The Ehrsam Wood Fibre Machine

The log feeds itself to the saw. As the log decreases in diameter the Speed of the log and of the feed INCREASES AUTOMATICALLY.
In other words, the Peripheral Speed remains constant.
The feed of the log to the saw is in direct proportion to the speed of the log.
This automatic uniformity of feed INSURES UNIFORMITY of FINENESS in the PRODUCT.
No frictional devices are used, none being necessary.
All the working parts are planed. All of the gears are cut from solid steel.
All of the parts are interchangeable and numbered, so that duplicate parts can be quickly obtained and easily put in position
The Saw mandril is extra heavy and made of the best crucible steel.
The journals are chain oiling. No machine can be more substantially built. Write for full information.

Okeene, Okla., June 14, 1911.

J. B. Ehrsam & Sons, Enterprise, Kans.,
Gentlemen:—Some time ago I received a letter from you asking how the wood fibre machine you shipped us is doing. Will say it is the best I ever used. In regard to any suggestions I could make as to how it might be improved, will say that I can make none, as it is O. K. Yours truly, SOUTHWEST CEMENT PLASTER CO.,
Frank Dodge, Sup't.

Manufacturers of Jaw and Rotary Crushers for Gypsum, Vibrating Screens, Hair Pickers, Wood Fibre Machines, Calcining Kettles, Plaster Mixers, Power Transmission

The Enterprise Vertical Burr Mill

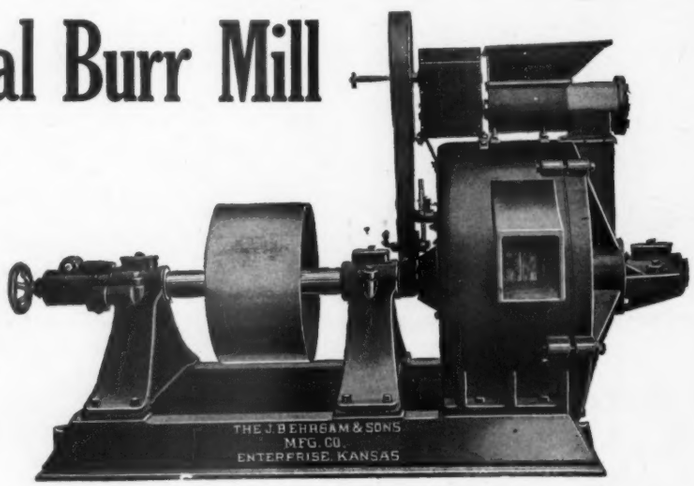
is especially designed for grinding gypsum, limestone, coal, coke, paint, rock, foundry facing, carbon, salt, and other similar substances.

It is STRONG and DURABLY built.

Has INTERCHANGEABLE STONES, which can be easily removed for dressing and replaced.

Is provided with our POSITIVE CONTROLLABLE FEEDER, which feeds an absolutely uniform stream into the mill at the required capacity.

MANY OTHER ADVANTAGES.



The J. B. Ehrsam & Sons Mfg. Co.

Designers and Builders of

Complete Equipment for Plaster Mills

ENTERPRISE, KANSAS, U. S. A.

Dakota Plaster Co.

WE MAKE THE FAMOUS

"Black Hawk"

AND

"Dacotah"

Hair and Wood Fibred Plaster

Our Plaster is pure white; uniform in color; carries more sand, works easier and makes the hardest wall. Our Mill is thoroughly equipped with the most modern machinery, and we are always in a position to make prompt shipment. We guarantee every sack of our plaster.

Dakota Plaster Co. Rapid City, S. D. Black Hawk, S. D.

CUMMER CONTINUOUS PROCESS

FOR

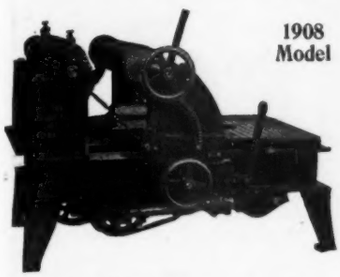
CALCINING GYPSUM

NO KETTLES USED — PLANTS IN OPERATION

Great Saving in Cost of Manufacture and Quality of Product Guaranteed.

The F. D. CUMMER & SON CO., Cleveland, O.

The Shuart-Fuller Improved Fiber Machine



1908 Model

Has an automatic, proportional increasing feed, which keeps grade of fiber uniform from start to finish, and holds machine to highest possible rate of production for the grade of fiber and number of saws. Does not begin with fiber and end with dust, nor fall off in rate of production on each log, from 40 to 80 per cent as do the ordinary non-increasing feed machines. Works logs up to 24x24 inches. No royalty string attached to sale. Pay no attention to misrepresentations of our competitors, but write for descriptive circular and terms to

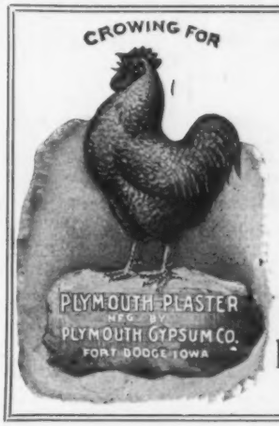
The Shuart-Fuller Mfg. Co.

ELYRIA, OHIO

THE SHUART-FULLER CO., Elyria, Ohio. St. Louis, June 17, 1907.

Gentlemen:—We are just in receipt of advice from our New Mexico plant wherein they state that the Wood Fiber Machine recently shipped by you is doing all that we have asked of it and running very fine.

ACME CEMENT PLASTER CO.,
By Jas. R. Dougan, Sec.



PLYMOUTH PLASTER
WOOD FIBER PLASTER
PLYMOUTH FIREPROOF PARTITION BLOCKS
PLASTER BOARD
STEEL STUDDING

THE QUALITY BRANDS

WRITE US FOR PRICES AND ADVERTISING MATTER

Plymouth Gypsum Co.
Fort Dodge, Iowa

THE NATIONAL RETARDER CO.

Mills at

Webster City, Iowa
Port Clinton, Ohio

Successors to

The Chemical Stucco Retarder Co.
Webster City, Iowa

The Ohio Retarder Co.
Port Clinton, Ohio

The Binns Stucco Retarder Co.
Uhrichsville, Ohio

The same standard quality of retarder will be produced and marketed by the same people at the right price—only a change in name of corporation.

MAIL ORDER TO NEAREST MILL FOR PROMPT SERVICE

Improved
Modern
Lath

TRADE MARK
J.B. KING & CO.
FIBROUS PLASTER BOARD
DIAMOND BRAND
NEW YORK
REGISTERED IN U. S. AMERICA

Fire-Proof
Insulating
Sound-Deadening

King's Fibrous Plaster Board

Standard Size 32″ x 36″

THE RESULT OF "TRADE DEMANDS"

STRENGTHENED to stand the GREATEST STRAIN to which such material is subjected
TOUGHENED to a woody consistency to stand NAILING AND HANDLING

SHIPMENTS made to dealers of STRAIGHT OR MIXED CAR LOADS

KING'S FIBROUS PLASTER BOARD

CALCINED PLASTER
MOULDING PLASTER
FINISHING PLASTER
WOOD FIBRE PLASTER
NEAT WALL PLASTER
SANDED PLASTER
MARBLE DUST

PLASTER BOARD NAILS

SERVICE The location of our works at the greatest railroad terminus in the East and our several warehouses enable us to make **Prompt Shipments at all times.**

J. B. KING & CO.

Plaster Board Department:
17 State Street, New York, N. Y.

WAREHOUSES:
Boston, Mass. Providence, R. I.
Chester, Pa. Hartford, Conn.
Norfolk, Va. Buffalo, N. Y.
Brunswick, Ga.

WORKS:
New Brighton, Staten Island,
NEW YORK

NIAGARA

Wall Plasters Have Greater Covering Capacity, Work Smoother Under the Trowel and Have Greater Final Strength

Niagara Neat Cement

Niagara Sanded Mortar

Niagara Wood Fiber (Wood Pulp)

in 100-lb. Jute Sacks and 80-lb. Rope Paper Sacks. Mixed Car Loads of Wall Plasters, Hydrated Finishing Lime, Plaster Board, Land Plaster and Calcined Plaster for Finishing Purposes. These Products Mean Money to the Dealers in Builders' Supplies. Write today for prices.

NIAGARA GYPSUM COMPANY

BUFFALO, NEW YORK

BOOKS FOR THE TRADE

Architects and Engineers

Building Construction and Superintendence—Masonary Work
F. E. Kidder Price $6.00.

Hydraulic Engineering
F. E. Turneaure and Adolph Black. Price $3.00.

Analysis of Elastic Arches of Steel, Masonary and Reinforced Concrete
Joseph W. Balet. Price $3.00.

Theory of Steel-Concrete Arches and Vaulted Structures
Wm. Cain. Price $0.50.

Concrete Country Residences
Price $1.00.

Graphical Handbook for Reinforced Concrete Design
John Hawkesworth, C. E. Price $2.50.

Architects' and Engineers' Handbook of Reinforced Concrete Construction
L. J. Mensch. Price $2.00.

Theory and Design of Reinforced Concrete Arches
Arvid Reuterdahl. Price $2.00.

Treatise on Concrete, Plain and Reinforced
F. W. Taylor and S. E. Thompson. Price $5.00.

Concrete Engineers' and Contractors' Pocketbook
Wm. F. Tubesing. Price $1.00.

Concrete Steel
W. N. Twelvetrees. Price $1.90.

General Specifications for Concrete Work as Applied to Building Construction
Wilbur J. Watson. Price $0.50.

Strength of Materials
Edward R. Maurer. Price $1.00.

Highway Construction
Austin T. Byrne and Alfred F. Phillips. Price $1.00.

Principles of Reinforced Concrete Construction
F. E. Turneaure and E. R. Maurer. Price $3.00.

Refrigeration
Chas. Dickerman and Francis H. Boyer. Price $1.00

Heating and Ventilation
Charles L. Hubbard. Price $1.50.

Plumbing
Wm. Beall, Gray and Chas. B. Ball. Price $1.50.

Estimating
Edward Nichols. Price $1.00.

Building Superintendence
Edward Nichols. Price $1.50.

Cement and Lime Manufacturers

Bungalows, Camps and Mountain Houses
Price $2.00.

Manufacturer of Hydraulic Cement
A. V. Bleininger. Price $1.25.

Limes, Cements and Mortars, Concretes, Mastics, etc.
G. R. Burnell. Price $0.60.

Portland Cement; Its manufacture, testing and use
David B. Butler. Price $5.00.

Instructions to Inspectors on Reinforced Concrete Construction
Geo. P. Carver. Price $0.50.

Lime, Mortar and Cement
A. I. Dibbin. Price $2.00.

Cements, Limes and Plasters
Edwin C. Eckel. Price $6.00.

Practical Treatise on Limes, Hydraulic Cements and Mortars
Gen. Q. A. Gillmore. Price $4.00.

Mortars, Plasters, Stuccos, Concretes, Portland Cements and Compositions
F. Hodgson. Price $1.50.

Experimental Researches upon the Constitution of Hydraulic Mortars
H. LeChatelier. Price $2.00.

Concrete Factories
Robert W. Lesley. Price $1.00.

Portland Cement; Composition
Richard K. Meade. Price $3.50.

The Constitution of Hydraulic Cements
S. B. Newberry. Price $0.50.

Manufacture of Concrete Blocks
Wm. M. Torrance and others. Price $1.50.

Practical Cement Testing
W. Purves Taylor. Price $3.00.

Notes on the Testing and Use of Hydraulic Cement
Fred P. Sutcliffe. Price $1.00.

Calcareous Cements
G. R. Redgrave and Charles Speckman.

Gas Engines and Producers
L. S. Marks and S. S. Wyer. Price $1.00.

Foundation and Concrete Works
E. Dobson. Price $0.60.

Cement Users

The Uses of Hydraulic Cement
Frank Harvey Eno. Price $1.00.

Portland Cement for Users
Henry Faija and D. B. Butler. Price $1.20.

Cements, Mortars and Concrete
Myron C. Falk. Price $2.50.

Reinforced Concrete
W. H. Gibson and W. L. Webb. Price $1.00.

Concrete System
F. B. Gilbreth. Price $5.00.

Hand Book of Cost, Data
Halbert P. Gillette. Price $4.00.

Concrete Construction
H. P. Gillette and C. S. Hill. Price $5.00.

Cement Workers' and Plasterers' Ready Reference
H. G. Richey. Price $1.50.

Notes on Testing and Use of Hydraulic Cement
Fred P. Spalding. Price $2.00.

Reinforced Concrete
A. W. Buel and C. S. Hill. Price $5.00.

Concrete
Edward Godfrey. Price $2.50.

Reinforced Concrete
C. F. Marsh and Wm. Dunn. Price $7.00.

Practical Treatise on Foundations
W. Patton. Price $5.00.

Concrete
Thomas Potter. Price $3.00.

Cement and Concrete
Louis C. Sabin. Price $5.00.

Practical Reinforced Concrete
H. B. Andrews. Price $2.00.

Concrete and Reinforced Concrete Construction
Homer A. Reid. Price $5.00.

Handbook on Reinforced Concrete
F. D. Warren. Price $2.50.

Sewers and Drains
Anson Marston. Price $1.00.

Concrete
Edward Godfrey. Price $2.50.

Popular Handbook for Cement and Concrete Users
Myron H. Lewis & A. H. Chandler. Price $2.50.

ROCK PRODUCTS, 537 South Dearborn Street, CHICAGO

PEERLESS

means without an equal and that is what our products are beyond the shadow of a doubt.

Peerless Plaster-Board

The Best on the Market To-day

Peerless Plaster Board has no superior on the market today. Strength, durability, and uniformity in thickness with clean cut edges are its chief virtues.

Peerless Plaster Board finished with **Peerless Plaster** make a Peerless Wall. Builders' Supply Retailers say it is the best Plaster Board manufactured. If you are "from Missouri" write us today for sample and prices.

Write today for our
PEERLESS PROPOSITION

Peerless Cement Plaster
Peerless Wood Fibre Plaster
Peerless Sanded Plaster
Peerless Ready Finish
Peerless Portland Stucco
(Exterior Plastering)

We Ship Mixed Cars of Plaster and Board

Peerless Plaster Board comes in sheets 32 inches by 36 inches.

Peerless Plaster Board is a fire retardent and an efficient sound deadener.

Peerless Plaster Board is a non-conductor of heat and cold.

Peerless Plaster Board is an insurance against cracks, buckles, and lath strains.

Get in line with
THE PEERLESS LINE
WRITE TODAY

M. A. REEB, : Buffalo, New York

KING'S WINDSOR CEMENT
FOR PLASTERING WALLS AND CEILINGS

Buffalo Branch, CHAS. C. CALKINS, Manager
322 W. Genessee Street.

Not the hardest, but the toughest and best Wall Plaster made—Can be applied with less labor. Has greater covering capacity than any other similar material

J. B. KING & CO., 17 State Street, New York.

Our Information Bureau Is Free

to all our readers.

Consult Us When in Doubt

Write us today.

Information Bureau ROCK PRODUCTS, 537 S. Dearborn St. Chicago

RICKETSONS
YOU CAN'T FADE 'EM
MORTAR COLORS

There's one "best" in every line, but that is not always best for everyone concerned. In the building trades

Ricketson's Mineral COLORS

are acknowledged to be the best choice for *everybody*. Best for the architect because purest. Best for the contractor because they go farther. Best for the owner because they never change their color.

For Mortar, Brick, Cement, Stone, Etc.
Red, Brown, Buff, Purple and Black

RICKETSON MINERAL PAINT WORKS MILWAUKEE, WIS.

Whenever You Wish to

Sell Your Stock, to Dispose of Your Old Machinery, Wish an Employee, or Want a Position,

REMEMBER that ROCK PRODUCTS can do this for you promptly.

Tell 'em you saw it in ROCK PRODUCTS

Structural Tiles

IN ALL USEFUL SIZES FOR EVERY KIND OF BUILDING

Now Booking Orders for Spring Delivery

FOR DWELLINGS—These tiles combine the long needed essentials of perfect adaptability to every kind of decorative treatment, very high fire resisting value, and extreme low cost as well as economy at the job. With them a permanently sanitary home is built—this cannot be done with any other material.

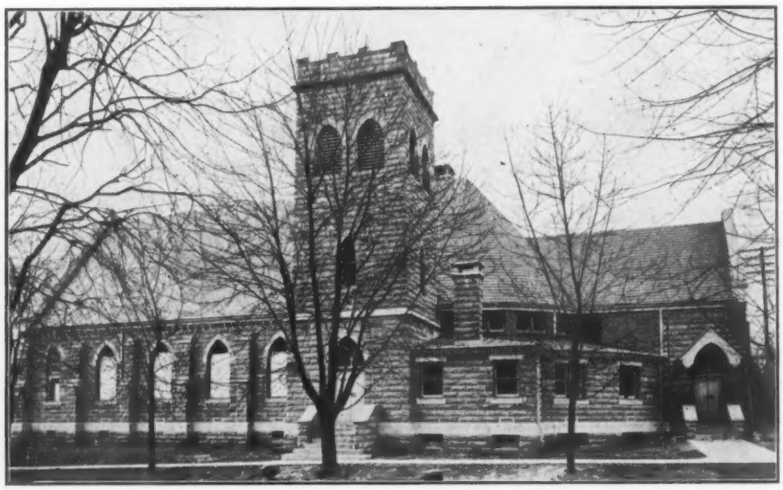
COUNTRY ESTATES AND FARM BUILDINGS—Economical improvements that show up, for every dollar of the cost is obtainable only with this greatest concrete product.

PLASTERED EXTERIORS—A Perfect Plastering surface is provided in concrete tile walls for the spreading of plaster or stucco with absolute certainty of securing strong adhesion of the materials.

CONTRACTORS WHO USE OUR TILES EASILY UNDERBID COMPETITION

Chicago Structural Tile Co.

537 South Dearborn Street, - - CHICAGO, ILL.



The above church was built by the National Hydraulic Stone Co., Mottu and White, Architects, who say: "The density of the Hydraulic rammed Concrete block of which the Wallbrook church was built is very satisfactory. We plastered directly on the block, decorated in water color and moisture has never penetrated the wall. We recommend your Concrete in the most elaborate buildings."

Cheer Up!

Your troubles with Water Soaking Blocks are past.

We guarantee to make Strong Dense Non-absorbent Concrete Blocks cheaper and better than any Concrete Building Product you have ever seen made.

Why?

BECAUSE We ram a wet mixed Concrete by powerful Hydraulic blows. We supply the Cement at the time of mixing with sufficient water to produce perfect initial setting and the aggregates driven together held by suction permit perfect bonding. We follow these principles.

This Machine does the work. We lead, others follow. We build your business and make you money. We equip your plant with machinery and all the attachments complete.

Our Machine makes 1000 blocks per day under powerful Hydraulic ramming of a wet mixed Concrete. No skill labor required.

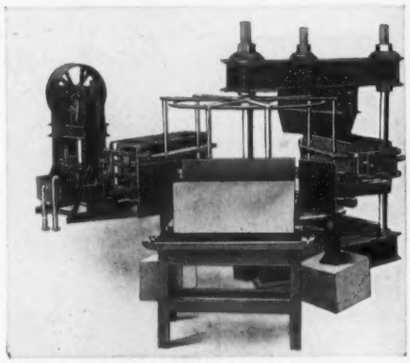
Two men make more blocks with our system, than four men using any other machine.

We make any style and shape blocks—and don't be misled for we make hollow block-angle blocks—veneering slabs face down in any design from the size of a brick up to the dimension stone.

We guarantee the machinery and sell it on its merits.

Before purchasing write us—or better still come and see and be convinced.

The
Fisher Hydraulic Ramming Machinery
1109 Kilburn Ave. Rockford, Ill.



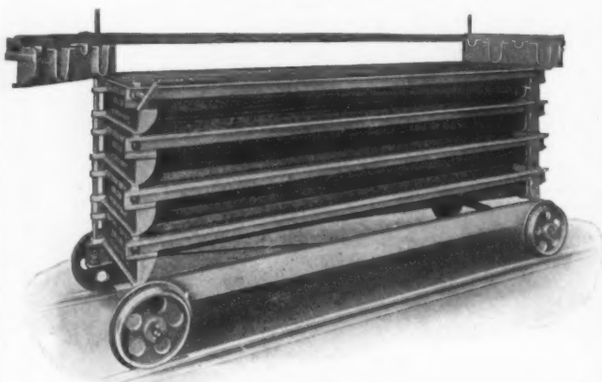
CONCRETE FENCE POSTS

T SHAPE MAKES THEM

STRONGEST, LIGHTEST, CHEAPEST

Used by leading railroads and interurbans

Our system is absolutely the only way for making "wet mixture" posts economically. Write for our catalog.



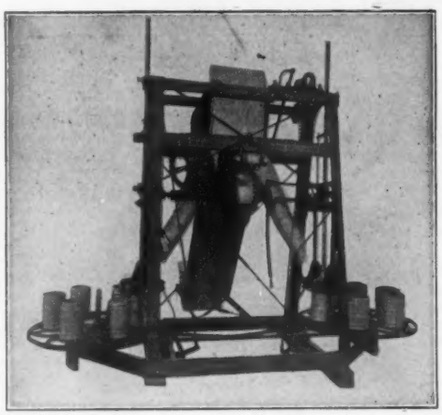
30 and 20 poured posts made at one time in our batteries. Above shows posts and molds in top section removed and end frames thrown back on hinges. We guarantee every mold. Write for our catalog at once.

OHIO POST MOLD CO.

1348 Nicholas Bldg., TOLEDO, OHIO

See our exhibits at the New York, Chicago and Kansas City Cement Shows

THE McCracken Double Tile Machine



The McCracken Double Tile Machine makes all sizes of cement tile from 4 to 16 in. in diameter at the rate of from 10 to 20 tile per minute. Also makes building blocks or construction tile 8x8x16 at the rate of 2000 to 3000 per ten hour day.

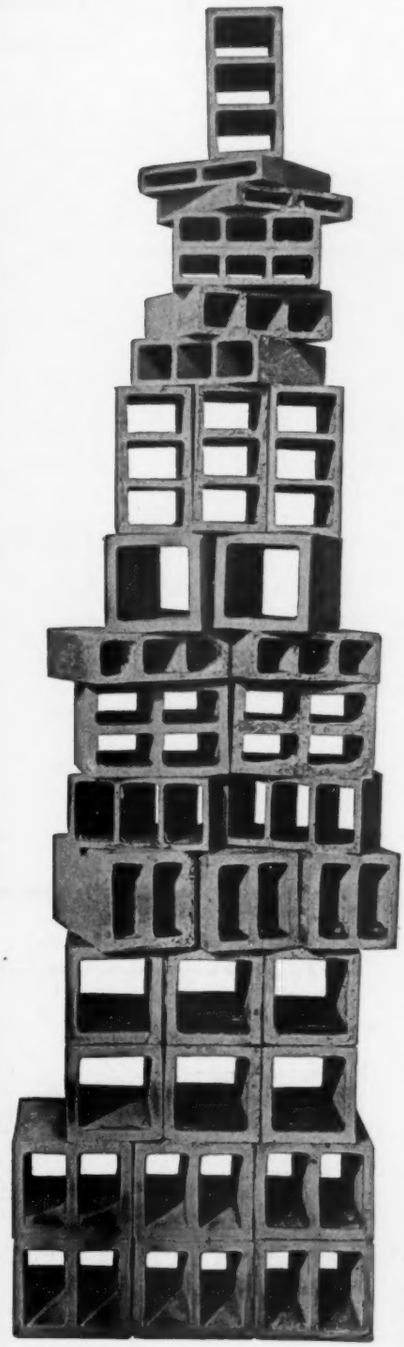
The machine will make two different sizes of tile at the same time or building blocks and tile at the same time, or either end of machine can be used without using the other.

The machine has no cans and runs just as smooth at high speed as when running slow. Takes less labor per 1000 tile than any other machine.

Tile are packed so hard that the large sizes can be carried without the use of pallets. Machine is very simple and strong and runs very light, and elevator can be started and stopped without stopping the machine.

See the McCracken Machine before you buy. Write to

The Sioux City Cement Machinery Company
219 4th Street, SIOUX CITY, IOWA



Has The First *Pauly* Concrete Tile Plant Been Successful?

This question, which is usually first asked us by interested parties, is best answered by two facts:—1. During the year of 1909 and 1910, the demand in Youngstown, Ohio, could not be satisfied, and (2) the plant's capacity output is sold in advance **in the City of Youngstown alone.** In this connection it might be stated also that 4 tiles of our most common size, 8x8x16, can be manufactured from one cubic foot of concrete, with a labor cost of 50 per cent of the cost of concrete anywhere east of the Mississppi.

A weatherproof home of fireproof material can now be built for almost wooden construction cost. These points have been clearly demonstrated in Youngstown by practical use of ***Pauly*** Concrete Structural and Fireproofing Tile, in a variety of buildings. The result gained has not only been a financial success, but also an enviable position in the estimation of the entire building public.

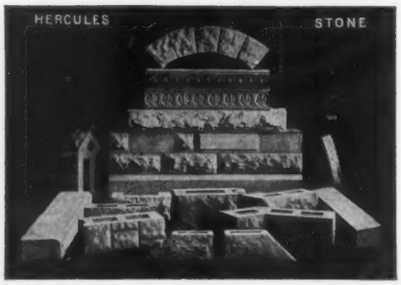
Persons interested in this practical and profitable phase of the concrete business, are always welcome by the The Concrete Stone & Sand Co., Youngstown, Ohio, where they will be shown every detail of the initial factory.

Our Catalog

Gives the method of manufacture, fire and compression test data, and the endorsements of local architects and other building authorities. Also many other articles and illustrations of interest to the general public. May we send you, postpaid, a copy of our Catalog?

The Concrete Stone & Sand Co.
Youngstown, Ohio.

Hercules Blocks
Sell on Sight



The dense non-porous blocks of Cement Stone made on

Hercules Block Machines

satisfy the eye of the most critical architect or house builder. It is one of the chief merits of the Hercules Machine that it permits blocks to be made of WET concrete. This results in greater density, greater strength and greater water proofness. The Hercules is the only machine that expands with the requirements of your business. The only machine that makes dimension stone up to **Six Feet** long.

The Hercules is built upon one solid frame 6 feet long. If your demand is just for an 8x8x16 block, you only need the mould box for that size. As your trade increases, you merely add new plates to be attached to your original machine. You don't have to buy a new machine every time you wish to make a different size. There are many other points connected with Hercules machines you ought to know. These are fully told in a "little book" we have just issued. Send for it today.

Century Cement Machine Co.
288-298 St. Paul St., Rochester, N. Y.

HIGH GRADE
FIRE BRICK

For Cement Works, Lime Kilns, Cupolas, Steel and Iron Works of every description

LOUISVILLE FIRE BRICK WORKS, Highland Park, Ky., P.O
Incorporated.

CLINTON METALLIC PAINT CO.
CLINTON, N. Y.
LARGEST AND OLDEST MANUFACTURERS OF
BRICK AND MORTAR COLORING
Be sure you get the genuine with the "Little Yellow Side-Label" on each package.
Let us tell you about Side-Walk Black.

The MORRILL SYSTEM of STEEL FORMS
Reduces Cost, Eliminates Waste of Lumber and Labor

Note the "Swing Up", 30 feet (15 plates), raised in 10 minutes.

Simple—Rigid—Indestructible

Any man can put it up. Adjustable to any dimensions and any thickness.

No Bolts—No Nuts—No Wires

All wedge connection—locked and unlocked by a stroke of the hammer. Adopted on hundreds of buildings for Real Estate Companies, Railroads, and Foreign Contracts.

Makes Poured Houses Possible.
Investigate fully, it is worth your while.
Write today for Catalogue.

Read & Morrill, Inc.
179 Jerolemon St., Brooklyn, N.Y.

PERFECTION IN BLOCK MAKING
If you wish to attain this you should combine these three important features:

Wet Process, Face Down, Damp Curing.

The **PETTYJOHN INVINCIBLE** Machine does this, and is the only machine that does. Tandem Invincible makes two blocks at once. Price $65.00 and up. Single Invincible, $35.00 and up. With our **Triple Tier Racking System** green blocks can be stacked three high direct from machine with inexpensive home-made rigging. Plans and blue prints free to customers. It economizes space, reduces off-bearing distance and above all insures slow, even, damp and perfect curing and bleaching.

Write for our latest edition of **"Stone Making,"** a book of valuable data, just off the press—FREE.

THE PETTYJOHN COMPANY
614 North Sixth Street. Terre Haute, Indiana.

Red, Brown, Buff and Black

CHATTANOOGA PAINT CO. MORTAR ECLIPSE COLORS CHATTANOOGA, TENN.

MORTAR COLORS

The Strongest and Most Economical in the Market.

CHATTANOOGA PAINT CO. STANDARD LOWES PAINT. CHATTANOOGA, TENN.

Our Metallic Paints and Mortar Colors are unsurpassed in strength, fineness, and body, durability, covering power and permanency of color. Write for samples and quotations.

CHATTANOOGA PAINT CO.
Chattanooga, Tennessee

Auditorium Hotel

CHICAGO

CONGRESS STREET AND MICHIGAN AVENUE

Convenient to all Points of Interest

Headquarters

During Chicago Cement Show

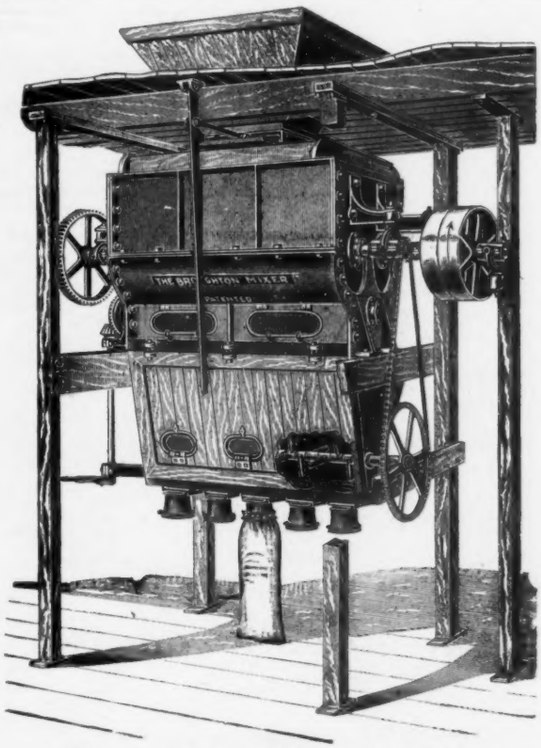
COLISEUM FEBRUARY 21-28

ENGAGE YOUR ROOMS NOW

PERSONAL ATTENTION TO GUESTS BY PEOPLE WHO KNOW YOU

W. S. SHAFER, Manager

W

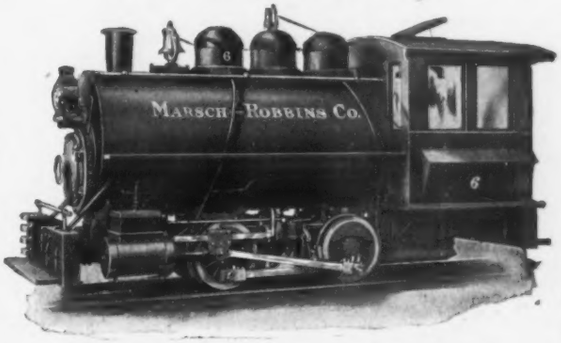


The most thorough and efficient Mixers of Plaster, Cement and Dry Materials. Send for Circular.

W. D. DUNNING, Water St., **Syracuse, N.Y.**

Do You Have Cars to Haul?

The Davenport Locomotive Will Save Money



Special Designs for Special Purposes
Any Size, Any Gauge, Any Weight
Write for Prices and Particulars

DAVENPORT LOCOMOTIVE WORKS

DAVENPORT, IOWA

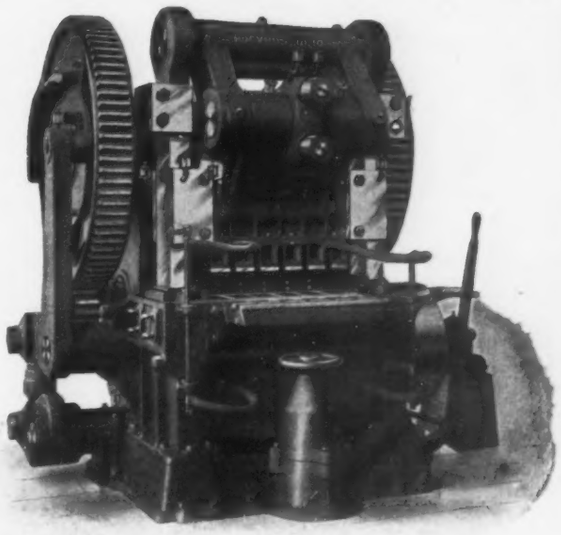
BRANCH OFFICES:
Chicago, 12 and 14 So. Canal St. — New York, 30 Church St.
Seattle, 617 Western Ave. — Minneapolis, 107 3d Ave. No.
F. H. Hopkins & Co., Montreal, Que., Canadian Representatives

Sand-Lime Brick Machinery

OUR Sand-Lime Brick Machinery is at least a little better than any other. We have testimonials to show it. We built it all in our own factory and are sure of its quality. We are the only firm doing this. We will design and equip your entire plant or will sell you parts of your equipment. Our catalog describing and illustrating our full line will be sent upon request.

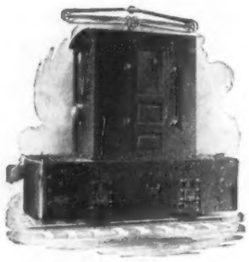
We also build a full line of machinery and appliances for making Clay Products, Cement and Pottery, Dryers and Dryer Apparatus.

Everything we sell we make. We therefore know its quality to be right.



THE AMERICAN CLAY MACHINERY CO.

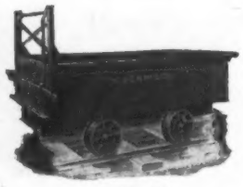
WILLOUGHBY, OHIO, U. S. A.



No. 6550
Electric Industrial Locomotive

THE ATLAS CAR & MFG. CO.
CLEVELAND, OHIO

MANUFACTURERS OF CARS FOR
QUARRIES, CEMENT WORKS AND GENERAL USES. ELECTRIC CARS AND LOCOMOTIVES, TURNTABLES, SWITCHES, FROGS.



No. 274
End Dump Quarry Car.

No. 805
Dumping Stone Carrier.

GIANT
PORTLAND CEMENT

An unsurpassed record of 25 years.

Send for our free booklets on Concrete Buildings of Moderate Cost.

American Cement Co.
PHILADELPHIA

N. Le Brun & Sons
Architects
New York City

When the Isthmian Canal Commission bought 4,500,000 barrels of

ATLAS PORTLAND CEMENT

for the construction of the enormous locks and Gatun Dam on the Panama Canal, they took into consideration the **known quality, strength, uniformity and prompt delivery** of our product.

About 3,000,000 barrels have been delivered, and while very thorough tests have been made at the government laboratory, not one single barrel has been rejected.

We want you to be just as confident of our

Non-Staining
ATLAS-WHITE
Portland Cement

as the Isthmian Canal Commission was when it bought **Atlas** exclusively for the Panama Canal

IT pays to get the best materials, whether you are buying for your client or for yourself. You have, perhaps, seen the folly of putting into some fine building, a brand of Cement you do not know.

THE ATLAS PORTLAND CEMENT CO.,

Dept. U **30 Broad Street** **New York**
Morris Building, Philadelphia **Corn Exchange Bank Building, Chicago**
Productive Capacity Over 50,000 Barrels Per Day—Largest in the World